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Editorial.

EXAMINERS—THEIR PRIVILEGES AND THEIR RESPONSIBILITIES.

THE report of the Meeting of Council of the Royal College of Veterinary Surgeons will be found to contain some interesting matter under the heading of the Examination Committee. Not only will examiners there find that the limits of their activity are pretty clearly defined by negation, but examinees will notice that their interests are safeguarded, and that a check has been put upon the possibility of unworthy motives actuating their judges. As these considerations appeal to a wide circle of the profession, and involve general principles of no little importance, we propose to devote this article to their discussion.

An examiner who has a proper idea of the dignity of his office must feel that a heavy responsibility is laid upon him. In the first place, he has been elected to his post because the Council believe him to be possessed of the requisite knowledge. He is, before all things, a specialist, but he is something more than a specialist. He must know his own subject thoroughly well, but he must know other subjects also; indeed his particular knowledge must be conditioned by his general knowledge. No man can be said to know anything thoroughly until he knows its limitations and its bearing upon other things. It cannot but be so; a man finds that the boundaries of his property are simply the points beyond which he is a trespasser on his neighbour's property. In this connection we cannot resist quoting Lord Brougham's clever and epigrammatic definition of a good education: to know everything about something, and something about everything. But, secondly, the examiner is appointed because he is believed to be an upright and impartial judge. Not only must he be free from all suspicion of bias in favour of or against a particular school or a particular candidate, but he must be capable of judging candidates' answers from a scholarly and not a pedantic point of view. In other words, the examiner ought to have the judicial mind. Now the judicial mind is one which is potent in analysis, capable of weighing all kinds of

evidence, clear and vigorous in pronouncing judgment. The plea of mercy need not be excluded from such a judge's purview. Only the strong are truly merciful, for they are fearless; they are not accessible to mawkish suggestions of the hurt which their judgments will cause, and they think it better to stop a candidate by a blank refusal at the beginning of his career than to allow him to enter on what must prove to him a howling wilderness of starvation and despair; on the other hand, they are not afraid to recognise true merit in however grotesque a form, nor are they afraid to defend their decisions when impugned by the ignorant and dull.

It will thus be seen that the qualities which go to make a competent examiner are partly intellectual and partly moral, and that the moral outweigh the intellectual. Mere specialists are not so difficult to find, and sometimes when found are not worth the trouble of finding. When a man devotes himself to any particular exercise, whether it be the study of Greek particles or the etiology of fevers—or, for that part of it, the most graceful way of walking on his hands or standing on his head—the chances are that he will succeed, but then the cost? The man of wide and comprehensive knowledge who specialises on one particular subject is much more difficult to find, but the man who to these qualifications adds the judicial mind is the most difficult of all. It is largely for the development of such characters, and for the purpose of honouring and protecting them when developed, that the Committee framed Resolutions 3 and 4. After what we have said it seems unnecessary to defend these resolutions, and yet we hear rumours to the effect that all our examiners do not take precautions to maintain an absolutely independent attitude. One or two of these, we hear, take or have taken pupils who are or have been preparing for the Royal College of Veterinary Surgeons Examinations. Now it must be evident to the simplest mind that the duties of teacher—or rather of special "coach"—and examiner are as little capable of reconciliation as those of judge and advocate. The advocate is a special pleader, and must make the most and the best of his ease at all costs; he simply emphasises the one side of the case, letting the other go as it chooses; the judge hears both sides and gives an impartial decision. It would really be more reasonable to make teachers in Veterinary Colleges the examiners of the work done in these Colleges, because they have at least to consider a great number of candidates, and any tendency to partiality and favouritism is largely dissipated or neutralised, and so rendered harmless. With the private teacher it is otherwise. If he "plucks" his pupil he has not, really or apparently, taught him well; if he passes the pupil without sufficient merit, he is abusing a sacred trust; in neither case ought he to have taken the candidate as his pupil. Even when the candidate passes on his merits, the "coach" is subject to grave suspicion, and may become the victim of slander; the parent may think that the fee paid for coaching was thrown away;

the public will be slow to believe that the pupil did not get special "tips." Even the most resolutely upright judge will find it difficult to avoid injustice if he takes pupils; in spite of himself and quite unconsciously he gives hints of the impending examination. Men's minds run in grooves and they repeat their questions. All this is known to schoolmasters and army tutors, and they tabulate their results, and can quite confidently forecast seven or eight out of every ten questions that a particular examiner will put, and they make their living accordingly—small blame to them. We remember when a young relative of ours was at school preparing for a university bursary examination, that his Greek master advised him to pay special heed to the 2nd aorist of certain verbs—"Professor B., who prepares the examination papers, is certain to ask you two or three of these!" A university examiner of our acquaintance—to take an illustration of a different kind—was so fastidious on the point we are discussing, that when a paper came before him written by a young kinsman, in whose welfare he was profoundly interested, he refused to value the paper, but handed it on to another examiner, with the request that he would put a value on it, and initial it specially. We trust we have pointed out sufficient risks and inconveniences to give the unwary examiner pause when he thinks of taking pupils. Should these not be sufficient, we must warn him of the possibility of a Joint Board of Examiners, one-half of the number to be appointed from the Colleges, and the other from the profession generally.

We fear that Resolution No. 4, like No. 3, is not quite unneeded. We are sorry to say this, as we should like everything in the nature of advertisement and touting to be abhorrent to the members of our profession. After all, it is not a large body, and of this body the number of possible candidates for examinerships forms but a fraction. It would be well, then, if men ambitious of becoming examiners would content themselves with the evidence of their fitness which is best furnished by papers read at Veterinary Society Meetings or by contributions to veterinary literature. For our own part we are only too pleased to receive important communications from learned colleagues, and to give them prominence in the JOURNAL. Such speeches and writings meet the eye of every Member of Council of the Royal College of Veterinary Surgeons, and due note is taken of them, In this way public opinion matures, and men's reputations are built up, and so, when the time comes for the selection of examiners, a good choice is generally made. But if Members of Council are to be harassed by canvassing, and if a vote is to be given as a special personal favour and not as a deliberate judgment as to the candidate's fitness, then another terror will have been added to the life of the Councilman, and the chances of a good Board of Examiners will be very nearly ruined.

XUM

Royal College of Veterinary Surgeons.

A QUARTERLY MEETING of Council of the Royal College of Veterinary Surgeons was held on Friday, January 9th, 1903, at 10 Red Lion Square, W.C., Professor W. Owen Williams, President, in the Chair.

The following Members of Council were present:—Vet.-Colonel Duck, Professors M'I. M'Call, M'Fadyean, Mettam, Penberthy, and Shave; Messrs. Abson, Banham, Barrett, Byrne, Cope, Fraser, Lawson, Locke, M'Kinna, Over, Shipley, Simpson, Trigger, Wartnaby, Wragg, Mr. Thatcher (Solicitor), and Mr Hill (Secretary).

ABSENTEES.

Communications were announced as having been received from Messrs. Villar, Dewar, Mason, and Bower, regretting their inability to attend the meeting.

The Minutes of the last meeting were taken as read, and confirmed.

CORRESPONDENCE.

The SECRETARY read a letter from Mr. E. L. Stroud, Honorary Secretary Central Veterinary Medical Society, enclosing the following resolution passed at the Annual Meeting of the Society:—"That this Society wishes to endorse the action taken by the Council of the Royal College of Veterinary Surgeons with reference to the grievances of the Army Veterinary Department, and hopes that the efforts of the profession will not be relaxed until rectification of their grievances is obtained."

It was resolved that the letter be received and its receipt acknowledged.

The SECRETARY read the following letter from the War Office:—"13th November 1902. Sir—With reference to your letter of the 24th ultimo, regarding the grant of honorary rank in the Army to Temporary Veterinary-Captain J. P. Spanton, late Veterinary Officer, 1st Battalion Imperial Yeomanry, I am directed by the Secretary of State for War to point out to you that paragraph 40, Imperial Yeomanry Regulations, and article 431 of the Royal Warrant do not apply to the case, as Captain Spanton has neither been appointed to a Commission in the Imperial Yeomanry at home nor to one in the Army Veterinary Department.

"With regard to the grant of the honorary rank in question infringing the provisions of the Veterinary Surgeons Act of 1881, Mr. Brodrick is advised that the power of the Crown to grant such honorary rank is in no way affected by that Act.—I have the honour to be, Sir, your obedient servant, E. M. WARD."

The SECRETARY stated that he was requested by the President to write to two of the Canadian Veterinary Colleges as to whether Mr. Spanton was a graduate of either of the Colleges. Mr. Andrew Smith, the Principal of the Ontario Veterinary College, had replied that Mr. Spanton was not a graduate of that College; no reply had been received from the other College.

The PRESIDENT pointed out that in the Official Army List the following entry occurred:—"Imperial Yeomanry in South Africa, Honorary Colonel the King; Veterinary Officers, Spanton, Veterinary Lieutenant, J.P., Duke of York's R. Can. Hsrs. (temp. Veterinary-Captain, 10th March 1901.)" In the same Official Army List the dates were given of

the appointments of Colonial graduates in Colonial regiments, some of them dating back a very considerable time, as veterinary-captains, veterinary-majors, and so on in the various departments. It had been the custom of the War Office for many years past to appoint Colonial veterinary surgeons to veterinary appointments in the Colonial forces, and all the men were included in the Official Army List. It was for the Council to decide whether they should even think of protesting against Mr. Spanton receiving an honour from the King, belonging as he did to the regiment of which the King was Colonel. He thought it would be hardly advisable simply to accept the letter and take no further notice of it. It was for the Council to decide whether they would endeavour to insist upon the matter (which really meant the withdrawal of the honour that the King had granted to Mr. Spanton, or to take an entirely different view of the matter.

Mr. BARRETT asked if the appointments to which the President had referred were Colonial appointments given by the Colonial authorities to Colonial graduates.

The PRESIDENT replied in the affirmative.

Mr. SIMPSON thought the letter from the War Office might be interpreted shortly that the Crown had power to do what it liked. The Crown had exercised its powers in giving honorary rank to a veterinary surgeon who was an unqualified man. There had not been any contravention of the Veterinary Surgeons Act unfortunately for the College, but the fact remained that the Crown had power to make the appointment, and the College had no redress. He thought the President would bear him out that the association which they had had with the War Office lately had impressed them with the view that there was no desire to go contrary to the wishes of the veterinary profession. So far as the appointment under discussion was concerned, it was the first that had come to the knowledge of the Royal College of Veterinary Surgeons, and although he thought the Council were amply justified, with the knowledge they had in their possession at the time, in offering at least a mild protest against the appointment, he thought that, as it had been pointed out that the Crown had absolute power in such matters, the Council would be wise to say no more about it.

It was agreed, on the motion of Mr. TRIGGER, seconded by Mr. COPE, that the letter should be acknowledged, a suggestion by Mr. Wragg that a statement should be made in the letter that the Council were satisfied with the explanation not meeting with approval.

It was resolved that a letter from the Yorkshire Veterinary Medical Society dealing with the same matter should be acknowledged, with the statement that the matter had received the Council's attention.

The SECRETARY stated that a letter was sent to the Educational Institute of Scotland with regard to the holding of their examinations in Edinburgh, Glasgow, Dublin, and London, and the following letter had been received from the Principal, Hugh Dickie :—"The Academy, Kilmarnock, 13th December 1902. Dear Sir—Since writing my answer to yours of the 28th November last, considerable pressure has been put upon the Committee of the Educational Institute of Scotland to extend the January examination to Dublin as well as to Edinburgh. In that case it may also be held in London, and arrangements will accordingly be made for that purpose for the 22nd January and the two following days."

Mr. TRIGGER asked if it were not a fact that since the certificate of the Educational Institute of Scotland had been accepted a very large percen-

tage of the students entering the Colleges presented that certificate, and did not that tend to show it was the easiest examination?

The PRESIDENT replied that the examination was found to be the most convenient for the students of the various Veterinary Colleges; as regards its ease or difficulty he could not express an opinion.

Professor PENBERTHY asked if there were not any other veterinary examinations held at Veterinary Colleges?

The PRESIDENT replied, not to his knowledge. There was an endeavour made by the Educational Institute of Scotland to hold an examination in Edinburgh and not elsewhere, but pressure was brought to bear upon the body, and it was pointed out to them that unless they held examinations at all the centres, in accordance with the agreement of the late Dr. Mackay, in all probability the Council would withdraw its recognition of the certificate, and when that pressure was put upon them they agreed to hold the examinations at all the centres in the usual course.

Mr. LAWSON asked whether it would be possible to obtain a return of the students examined by the Educational Institute of Scotland and also by the other bodies. At the Education Committee meeting he was struck with the fact that the bulk of the students passed the examination of the Educational Church of Scotland.

The PRESIDENT said that a return would be submitted at the next Council meeting for the last two years.

Professor M'FADYEAN reminded the Council that the discussion appeared to be to a large extent the revival of an old debate. On various occasions he unsuccessfully endeavoured to persuade the Council that the College of Preceptors' Examination was not as easy a one as the Educational Institute of Scotland. Certain gentlemen ardently espoused the opposite view, and were successful in persuading the Council that it was not an easier examination. In the meantime he expressed no opinion, but the fact remained that the majority of intending students who had not while at school provided themselves with some educational certificate preferred the one of the Educational Institute of Scotland. He was bound to agree with the President that there were, under the arrangements sanctioned by the College, conveniences attaching to the examination which did not attach to the others; they held four examinations in the year simultaneously in Edinburgh, Glasgow, London, and Dublin. In regard to ascertaining what proportion of students presented the one or the other certificate as a means of finding out which was the easier or the more difficult, he thought the information was not to be obtained in that way; no conclusion could be founded on figures of that sort. Not only did the great majority of those who had provided themselves with school certificates present the certificate of the Educational Institute of Scotland, but the great majority of them presented themselves for that examination only. The large number presenting the certificate of the Educational Institute of Scotland was explained because the great majority of students presented themselves for that examinatton, and that very few students had any experience of two examining bodies. It seemed to be a fair interpretation of the facts that, in the opinion of students, the Educational Institute of Scotland was the easiest examination on the list, and students would, of course, always take what they supposed to be the easiest examination, provided that in other respects it placed them at no disadvantage.

Mr. BARRETT asked whether the students were for the most part Scottish, Irish, or English.

The SECRETARY replied they were about equal.

Mr. BARRETT said if that were so he confessed that he was struck with the large number who had passed the examination of the Educational Institute of Scotland; and as he was one of those who advocated the institution of the examination he thought the matter might engage their very serious attention. To a certain extent he agreed with Professor M'Fadyean's remarks that the fact of the larger number of students desiring to pass the examination was *prima facie* evidence that the examination was easier.

Mr. LAWSON's resolution asking that a return should be obtained of the number of students who had presented themselves for the preliminary examinations during the last two years to the various examining bodies was seconded by Professor M'FADYEAN and agreed to.

The SECRETARY announced that he had received a letter from Mr. Finlay Kerr, who was nominated by the President to *pro tem.* fill the office of Secretary for the Board of Examiners in Ireland, accepting the position.

The SECRETARY read a letter from the Secretary of the North of England Veterinary Medical Asiociation, enclosing the following resolution passed on November 28th, 1902:—"That this Association regrets the action of the Council of the Royal College of Veterinary Surgeons in rejecting the proposal to endeavour to secure direct representation of our profession in Parliament. The Association is prepared to give financial help in the event of a candidate being brought forward, and also to make the subject a test question at the next election of Council."

The Council agreed that the letter should be acknowledged.

The SECRETARY read a letter from Dr. Bushnell stating that in order that the subject of the appointment of Ministers of Public Health might be considered it had been suggested that a paper should be read at the Eleventh Congress of Hygiene next September at Brussels, a discussion elicited, and a vote recorded, and asking the Council's co-operation by an expression of their opinion, and, if possible, by joining in the discussion.

On the motion of Mr. FRASER, seconded by Mr. M'KINNA, it was agreed that the President in power at the time should be asked to represent the veterinary profession at the Congress in Brussels next September.

The SECRETARY read a letter from Mr. Sidney Villar resigning his seat on the Council of the Royal College owing to the fact that his time was so fully occupied that it was impossible for him to give that care and attention to the duties of the office which was rightly expected from all who had the honour to sit at the Council table. By resigning so shortly before an annual election he felt that the Council would not be inconvenienced by his action.

Mr. TRIGGER moved that Mr. Villar be asked to withhold his resignation for a few months. If Mr. Villar withheld his resignation until after the April elections, it would save having an extra election.

Mr. SIMPSON seconded the motion, with an expression of regret from the Council that they should lose Mr. Villar's services as a member.

The resolution was adopted.

The SECRETARY announced that he had received two applications for the office of Secretary for the Board of Examiners in Ireland, one from Mr. Finlay Kerr and the other from Mr. J. H. Carr.

Mr. BYRNE asked whether it would be possible to nominate another candidate for the Secretaryship when the election took place.

The PRESIDENT said he was under the impression that the candidate must send in his application.

Mr. BRYNE asked whether, if the candidate was proposed and seconded by two Members of Council at that meeting, it would be open to them to propose his name?

The PRESIDENT said it was necessary in the case of an examiner that his consent should be received in writing.

Mr. BYRNE replied that he had the candidate's consent, but not in writing.

The SECRETARY stated that the candidate had to make the application within fourteen days before the meeting of Council took place.

TELEGRAPHIC ADDRESS.

The PRESIDENT said it had been suggested that it would be a convenience to many Members of Council and others if the College had a telegraphic address.

It was unanimously resolved, on the motion of Mr. ABSON, seconded by Mr. BYRNE, that the Secretary should arrange with the post-office for a telegraphic address, if possible the word "Centaur."

OBITUARY.

The SECRETARY read the Obituary List.

PRESENTATIONS TO THE LIBRARY.

The SECRETARY announced the following presentations to the Library:—Three months' *Veterinarian*, three months' *Veterinary Journal*, *Journal of Comparative Pathology*, *&c.*, from the editors; Calendar Royal College of Surgeons of England; Elementary Veterinary Lectures, Henry Thompson; Annual Report Imperial Bacteriologist for India (Calcutta), 1901-2; Annual Report C.V.D. Bengal, 1901-2.

On the motion of Mr. WRAGG, seconded by Mr. ABSON, a vote of thanks was accorded to the several donors.

REPORTS OF THE FINANCE COMMITTEE AND SUB-FINANCE COMMITTEE.

Mr. TRIGGER, as Chairman, read the following report of a Sub-Finance Committee meeting *re* returned voting papors, held on January 9th, 1903. The Committee reported that, having complied with the College requirements under section 4, sub-section 5, of the Veterinary Surgeons Act, of sending out notices and a registered letter to those whose voting papers had been returned marked "gone," "left, no address," &c., it had had the desired effect of correcting the addresses of fourteen Members, but some sixty were again returned through the post-office marked as before. The Committee therefore recommended that the names should be taken off the Register in compliance.

Mr. TRIGGER also read the following report of the Finance Committee meeting held on January 9th, 1903:—"Letters from Mr. Trigger and the Solicitor were read in regard to Counsel's fees, and the Committee recommended—'That in consequence of the advanced fee now demanded by the Standing Counsel of the College, the matter be referred to the Finance Committee for consideration and report.' In regard to the account *re* Pinson case, the Committee recommended that £25 be paid in full settle-

ment, but that it be not considered as a precedent. The Committee recommended that the best thanks of the Council be given to the Principals of the Colleges for the facilities granted at the recent examinations, the Committee specially recognising the courtesy of Professor Mettam in permitting some of his students to be examined in Scotland. The vouchers and receipts for payment during the preceding quarter were examined and found correct. The quarterly statement of the Treasurer was submitted, and the Committee recommended that the present liabilities should be discharged and cheques drawn." He moved that the report be received, and the recommendation of the Sub-Committee in regard to striking names off the Register be carried out.

Mr. LOCKE seconded the motion, which was agreed to.

Mr. THATCHER (Solicitor) having pointed out that his recommendation in regard to Pinson case was that 25 guineas and not £25 should be paid, it was agreed to amend the Minutes in that particular, guineas being substituted for pounds.

Professor PENBERTHY asked why it was that the Finance Committee suggested that thanks should be conveyed to the authorities of the Colleges; that struck him as very peculiar coming from the Finance Committee.

Mr. TRIGGER said the Finance Committee had to pay the costs. The Committee found that it was specially mentioned that the Principal of the College at Camden Town had placed great facilities at their disposal; they thought the thing had been done on very reasonable terms, and were therefore much indebted to the Principals of the Colleges for the facilities placed at their disposal. He wished also to mention the courtesy met with at the hands of Professor Mettam. Professor Mettam's action in sending men over from Ireland to be examined saved the Council a large sum of money.

The reports of the Committees, subject to the alteration made, were adopted on the motion of Mr. TRIGGER, seconded by Mr. M'KENNA.

REPORT OF THE REGISTRATION COMMITTEE.

Mr. SIMPSON, as Chairman, read the report of the meeting of the Registration Committee held on January 8th, 1903, and moved its adoption. It stated that the Treasurer drew attention to a case in which the Registration Committee had recommended the costs of the solicitor of the complainant to be paid or provided for, and he moved, and it was seconded and carried, "That in future no cash payments beyond the ordinary ones should be sanctioned by the Council."

The Solicitor then reported as to the cases in his hands.

In one case the undertaking had been complied with, and in another the offender had been prosecuted and fined £5, including costs.

The Committee then proceeded to further consider the cases in connection with the Remount Inquiry. Case No. 11h6 was an accusation of receiving commissions from dealers while purchasing horses for the Remount Department. The Solicitor reported that he had been unable to obtain any direct evideuce on the subject which would justify the Council in calling the Member before them, and it was recommended that no further proceedings should be taken.

Case No. 1200 was a charge of purchasing horses appropriated for Government purposes while engaged on the Remount Commission. The

respondent and his solicitor appeared, and the Committee, after hearing the statements of the College solicitor and the solicitor for the respondeut, came to the conclusion that the respondent's conduct amounted to indiscretion, which the Committee regretted.

In case No. 1201 the charge arose out of a statement before the Remount Committee that the respondent was dismissed from the Commission for drunkenness. The Solicitor reported that the result of his inquiries at the War Office elicited the fact that after the respondent had returned from the Commission the War Office had appointed him to a high position in Ireland. In the face of this the Solicitor did not see how any further step could be taken, and the Committee endorsed the recommendation.

Case 1202 also arose from a statement that the member was dismissed for drunkenness. The Solicitor reported that the respondent was in India, and he was therefore unable to obtain his attendance.

In case 1203 the gentleman was formerly on the Register, but his name had been removed under section 4. The allegation against him was complicity in attempts to defraud the Government on purchase of remounts. The Solicitor reported that the person not being on the Register there was no jurisdiction, and beyond that the proceedings instituted by the Government had collapsed.

The Committee then proceeded to inquire into case No. 1196, the accusation being that before he had obtained his Fellowship diploma he had signed a certificate using after his name the letters F.R.C.V.S. After some discussion the respondent said that it had been done inadvertently; he apologised, and he was directed to put his apology into writing.

The Committee then proceeded to consider the new cases, recommending that cautionary notices should be sent in some, and directing that further inquiry should be made in others. One case was dismissed, and in others they recommended that no proceedings should be taken. One case they considered was for a civil court, and not for the Council.

Case No. 1239 was a case of a limited company professing to carry on business as veterinary surgeons. The Committee referred the case to the Solicitor to report and advise.

The Committee considered case No. 1252, which was a charge against a College for soliciting work at reduced fees in a letter which appeared in the *Field* newspaper. The Committee considered that the Principal had nothing to do with it, but suggested that the attention of the Governors should be drawn to it, and that advertisements of veterinary practice should not be published in the case of a College where it would not be allowed in the case of a private practitioner.

The Committee considered cases Nos. 1198 and 1255, and the Solicitor reported that although he considered the cases bad ones of advertising, yet they were so near the border line that he could not recommend proceedings on his own responsibility. He requested leave to lay the case before the standing counsel, and after discussion this was adopted as a recommendation to Council.

The Committee recommended the restoration of the names of Charles Robert Twist and Walter Grey to the Register, which had been removed under section 4, sub-section 5, the requisite evidence in both cases having been furnished.

Mr. TRIGGER thought the minutes of the Committee were not correct; he had no recollection of the Solicitor asking for permission to get the opinion of the standing counsel.

The PRESIDENT said that Mr. Thatcher did ask for permission, and was corroborated in this statement by Mr. Fraser, Mr. Barrett, and Mr. Thatcher; Mr. Thatcher stating that he did wish for the opinion of counsel on the point, as it was a most important one.

Mr. WRAGG pointed out that his motion in regard to cash payments was not correctly recorded in the minutes, and after a short discussion it was agreed that the minutes should be amended in the following form:—"That in future no cash payments beyond the ordinary ones should be sanctioned except by the Council, and should be placed on the minutes."

Professor SHAVE said he was under the impression that in case No. 1200, which was before the Registration Committee on the previous day, the Committee said they did not wish to hear the respondent's solicitor, whereas the report of the Committee said, "After hearing his solicitor." He thought the report should be altered to that effect.

Mr. THATCHER said his remembrance of the case was that the respondent's solicitor heard his (Mr. Thatcher's) statement, and then said he had nothing to add to it; he was satisfied with what he (Mr. Thatcher) said.

The PRESIDENT corroborated this view, and the subject dropped.

Professor M'FADYEAN thought a principle of some importance was involved in the recommendation to take the opinion of counsel with regard to one of the cases mentioned in the report. The Council had heard from the Solicitor that in his opinion the alleged offence was on the border line of being probably no offence at all. It had always appeared to him that it would be wise for the Council in the meantime to leave alone the cases that were on the border line—that by-and-by they might tighten their grasp on those who were not in their view doing exactly right, but that at present they should only deal with those cases in which the offence was absolutely clear. For that reason he felt opposed to the recommendation that counsel's opinion should be taken. He thought it was not improbable that, when the evidence was considered, even if counsel advised that the case was on the wrong side of the border line, the Council would, in the end, decide not to proceed to the extremity of striking the offender's name off the Register. Another principle which, he thought, ought to be followed with reference to the question was that they should never enter into correspondence with an offender unless in the last resort, namely, that, in the case of his proving refractory they were prepared to strike him off the roll. He wished to ask the Solicitor whether, if counsel when consulted agreed that the case was on the border line, but over the line in the sense that it offended their regulations, he would advise the Council to strike his name off the Register, assuming that the person in question proved refractory.

Mr. THATCHER replied in the affirmative, stating that the Member in question was one of the worst offenders.

Professor M'FADYEAN asked how a man could be a bad offender when the Council had never proceeded to the step which it ought to take in regard to all bad offenders and strike them off the Register. What was the distinction?

Mr. THATCHER said he drew the same distinction as he should draw between a swindling company promoter who could not be touched and the poor wretch who forged a bank note.

Professor M'FADYEAN said it was all a question of evidence, and it must be remembered that the Privy Council was composed of laymen. It was known that some very eminent members of the Bench regarded adver-

tisement and such things as a perfectly venial offence. If the Council struck the particular gentleman off the Register, he thought he would probably appeal to the Privy Council, and that he might be reinstated, which would be a very bad thing for the College. He therefore moved that that part of the report be deleted.

Mr. TRIGGER, in seconding the motion, said he was perfectly with the Council in taking counsel's opinion when they intended to act, but he maintained, after what the Solicitor had said, that they dare not act in the case under discussion, even if counsel said they had a case. It was absolutely certain that the man would go to the Privy Council, where they would have to face the fact that in the opinion of their own Solicitor they had struck the man off upon a very shadowy case.

Professor METTAM, as the mover of the resolution in Committee that counsel should be consulted, supported the minute as it stood. He stated that Professor M'Fadyean and Mr. Trigger had shown pretty conclusively that there was great doubt as to whether the Council had any powers over the particular offence or not, and as the matter stood he thought for the sake of the Registration Committee it should be cleared up.

Professor M'CALL seconded Professor Mettam's remarks.

Mr. ABSON thought there was a principle at stake, and if that was so, the Council should not regard the red herring which had been drawn before them of appeal to the Privy Council.

The resolution that the Committee's recommendation in regard to counsel's opinion be deleted was put and lost, seven voting for and twelve against.

On the motion of Professor M'Fadyean, seconded by Professor Penberthy, the report as previously amended was adopted.

REPORT OF EXAMINATION COMMITTEE.

The SECRETARY read the report of the Committee held on the 9th January 1903, which stated that the Secretary read the reports of the December Examinations, the reports from the Chairman of the different sections of the Board of Examiners, the Delegates' reports, and also the Reports of the Fellowship and Walley Memorial Examinations, and after very careful consideration the Committee recommended the following to the Council:—

(1.) That the Secretary be requested to send to the Chairman of each section of the Board a letter drawing their attention to Bye-Law 86 in view of reported irregularities.

(2.) That the Fellowship Examiners be informed "That in the opinion of the Council the Examiners should not refuse to examine any thesis submitted for examination."

(3.) That it is undesirable that Examiners should either coach students or take pupils for a short time with the idea of preparing them for examination.

(4.) That it is undesirable for candidates to canvas Members of Council for an Examinership.

The list of Educational Certificates were carefully inspected and all passed.

The SECRETARY also announced that the following letter had been received from Mr. Villar, who was a delegate at the recent examination:—

"*Harrow-on-the-Hill, 8th January* 1903.—Dear Mr. President—In accordance with your wish I attended as a delegate at the recent examination on one day at the Royal Veterinary College. An official complaint was made to me that one examiner was submitting questions outside his subject, and I then conferred with him on the matter. It appears to me that some of the horses used for the Class D. Examination were not sufficiently unsound for the students to be fairly questioned about. I also think it would be of immense advantage if a whole recently-killed horse could be used for testing the students' skill in operating instead of the limbs and heads which are now supplied, and I think, if the Principal of the College approved, it could be done without any additional expense."

Mr. SIMPSON said he wished also to make a short verbal report. At the President's request he attended the examinations held at the Embankment and at the Royal Veterinary College, London. Mr. Villar in his written report made reference to one examiner examining somewhat beyond his border line. He (Mr. Simpson) also spoke to the examiner, who very courteously and properly said that any student who had been asked any questions upon a subject beyond his own border line should not be the sufferer, and he believed that that was carried out. With regard to the horses for testing the students' knowledge in Class D., he agreed with Mr. Villar that they were in many instances not sufficiently lame. Although he did not profess to be able to detect lameness in every horse. he went so far as to say that he certainly would have had some difficulty in deciding as to the lameness of some of the horses in the examination. But in that case also the examiners, Messrs. Hunting and Hicks, made every allowance, and at his suggestion horses that were not sufficiently lame to test the early knowledge of a student were at once put back, and the students not marked upon them, so that he did not think any student suffered.

The SECRETARY said he was requested by the Chairman of the D. section to wait upon the gentleman who supplied the horses, who said the matter should have his best attention as usual.

The report having been received,

Mr. SIMPSON drew attention to one paragraph in the report which he did not understand, with regard to the examiners in the Fellowship Degree not reading a thesis.

Professor PENBERTHY, as the Chairman of the Committee, said he would try to explain the matter. A communication was received from Mr. Hill, the Secretary, informing the examiners that a candidate had named a certain subject, soundness in horses, as one for his thesis, and it was alleged at the Committee meeting the previous day that an examiner, or the examiners, said that that was an unfit and unsuitable subject, and it would not be taken. The subject of azoturia was then submitted, and that subject was said to be a proper and suitable one, and one which would be accepted. He had seen one of the examiners for the Fellowship that morning, who had showed him Mr. Hill's communication, which if read would clear the matter up; it would show that the examiners never refused to receive any paper. Every paper sent in had been examined, and there was not the slightest reason in the world for the subject having been introduced to the meeting. He moved that the paragraph be deleted, as the circumstances described had never occurred.

Professor M'FADYEAN, in seconding the motion, thought it would be a perfectly unwarrantable censure on the examiners of the Fellowship degree if the paragraph was inserted.

Professor METTAM said his recollection of the circumstances was not on all fours exactly with what Professor Penberthy had said. The incident, as he remembered it, was something like the following:—A candidate for the examination wrote asking whether a paper on examination for soundness would be a suitable thesis for his Fellowship, and from what he gathered it was suggested it would not be, and azoturia was suggested instead.

Professor PENBERTHY said the candidate himself suggested the subject of azoturia.

(A short discussion ensued, and after Professor Penberthy had made a short explanation),

Mr. TRIGGER said that as he understood the whole thing was a misapprehension, and that the facts laid before the Committee had never arisen. The Council could not do wrong in deleting the paragraph.

The motion, that paragraph 2 of the report should be deleted, was agreed to, and the report as amended was adopted.

Mr. TRIGGER said he was sure the Council would record with very deep regret the fact that the report of the Examination Committee was not presented by its usual chairman, Mr. Mulvey, and that they would the more regret the cause of his absence—ill-health, and the fact that he was compelled to winter out of England. He knew the Council agreed with him that they had no more able Member of Council than Mr. Mulvey, especially on examination matters, of which he was the actual master. He therefore proposed that the Secretary should write to Mr. Mulvey saying how very much the Council regretted his absence, and hoping to see him at the April meeting in robust health.

Mr. WRAGG seconded the motion, which was carried unanimously.

SUB-EXAMINATION COMMITTEE.

The SECRETARY reported there were not sufficient members present at this Committee to form a quorum, and the meeting was adjourned.

PARLIAMENTARY COMMITTEE.

Mr. FRASER read the report, which stated that two letters were read, which had been referred to the Committee, both urging that steps be taken to obtain the return of a Member of the College to Parliament, one letter being from the Eastern Counties Veterinary Medical Society, and the other from the South Durham and North Yorkshire Veterinary Medical Association. Having regard to the resolution passed at the last meeting of Council, the Committee reported the receipt of the two letters.

The report was adopted on the motion of Mr. FRASER, seconded by Mr. TRIGGER.

COMMITTEES *re* MEMORIAL TO VETERINARY OFFICERS AND C.V.S., AND *re* FEES TO VETERINARY WITNESSES IN METROPOLITAN POLICE COURTS.

THE SECRETARY reported that there were not sufficient members present at these meetings to form a quorum.

COMMITTEE *re* BURSARY FUND.

Mr. TRIGGER read the report, which stated that there was now an accumulation of income in excess of the amount available for distribu-

tion according to the resolution of Council, and it was suggested that the Principals of Colleges and others should be asked for suggestions, and that the matter be adjourned until the next Council meeting in order to present a more complete report. He said the fund should be more properly called the Jubilee Memorial and Bursary Fund. In the Jubilee year 1897 the profession very liberally subscribed over £600 for the purpose of establishing a Jubilee memorial, which was added to a Bursary Fund of £50 a year, which had been accumulating under a resolution of the late Professor Walley. It was resolved that the prize should be a post-graduate one, but that no bursary should be awarded until the sum of £80 had accrued as interest on the capital amount. That sum had more than accrued, and he thought a prize would be given of certainly £80, or, if the rules allowed, 100 guineas. If any Member of Council had a good scheme he asked him to forward it to the Secretary before the next meeting.

The report was adopted on the motion of Mr. TRIGGER, seconded by Mr. BYRNE.

APPOINTMENT OF SECRETARY FOR THE BOARD OF EXAMINERS IN IRELAND.

Mr. BYRNE asked if it was within the powers of the Council to postpone the election to that office until the next meeting of the Council in April.

The PRESIDENT inquired the reason.

Mr. BYRNE said there would be no examination in Dublin until next July, and the Secretary to the Board of Examiners in Ireland would not be required to act till then, and, owing to a very criminal ignorance of the bye-laws of the College on his part, and he was afraid a certain amount of criminal ignorance on the part of his colleague Professor Mettam, he was not aware that it was necessary for applications for the position to be lodged fourteen clear days befor the Council meeting, and therefore they were unable to place before the Council the name of a gentleman whom they very much desired to see appointed, who commanded the confidence of the Irish practitioners.

Professor M'FADYEAN asked whether the name of the worthy gentle man might be disclosed.

Mr. BYRNE replied that it was Mr. James M'Kenny.

The PRESIDENT stated that the advertisement in the paper read, "Required, a Secretary to the Irish Section of the Board of Examiners, the appointment to be yearly, his duties to consist of preparing for and attending the examinations in Ireland.—Salary ten guineas per annum. Application to be sent to the Secretary, R.C.V.S., on or before the 14th of November."

Mr. BYRNE moved that the election be postponed until the next meeting of the Council in April, because, as representing the Irish practitioners, he wished to be afforded an opportunity of expressing on their behalf, and on his own behalf, their sense of the special fitness of Mr. James M'Kenny to fill the position.

Professor METTAM seconded the motion.

Mr. TRIGGER thought that if the resolution were adopted it would be a most dangerous precedent. It would also be unfair for the gentleman who had complied with the rules. As the election was only for one year,

if the candidate mentioned was really such a desirable gentleman, it would be open to them to bring him forward on another occasion.

Professor M'FADYEAN said the mover had stated that it was owing to his and Professor Mettam's ignorance of the bye-laws that somebody had not been nominated. It was not required for anybody to nominate any one who wished to be a condidate; the candidate simply had to apply.

Mr. BYRNE replied that Mr. M'Kenny did not send in an application because he was led to believe by him (Mr. Byrne) that if he was nominated at the Council that day it would be sufficient.

The resolution that the election be postponed was then put and lost, only two, Messrs. Byrne and Mettam, voting in favour.

The Council then proceeded to the election of the Secretary. Two gentlemen, Messrs. Finlay Kerr and J. H. Carr, had sent in applications.

On a ballot being taken eighteen votes were recorded for Mr. Finlay Kerr and none for Mr. J. H. Carr.

The President declared that Mr. Finlay Kerr was unanimously elected

ELECTION OF AN EXAMINER FOR THE MEMBERSHIP EXAMINATION IN PLACE OF VET.-LIEUT.-COLONEL R. MOORE.

The following seven nominations had been received:—Messrs. Meredith, Dawes, Rogerson, Young, Patrick, Parr, and Hayes.

A ballot was taken with the following result:—Meredith 7, Dawes 5, Rogerson 3, Young 2, Patrick 2, Parr 1, Hayes 0.

As no candidate had received an absolute majority of the Council, the President declared it would be necessary to have a further ballot to decide between Messrs Meredith and Dawes.

Another ballot was taken, with the following result:—Dawes 13, Meredith 7.

The President declared Mr. Dawes elected.

FURTHER BUSINESS.

Professor M'I. M'CALL gave notice of his intention to bring forward in due course at a meeting of the Council the following alterations of bye-laws 62, 63, 64, 65, and 67, the alterations to read thus:—

(62.) No student shall be eligible for the first examination until he shall have attended for one session at a recognised veterinary school the various subjects included in Examination A.

(63.) No student shall be eligible for the second examination until he shall have attended for one session at a recognised veterinary school the various classes on the subjects included in Examination B.

(64.) No student shall be eligible for the third examination until he shall have attended for one session at a recognised veterinary school the various classes on the subjects included in Examination C.

(65.) No student shall be eligible for the fourth examination until he shall have attended for one session at a recognised veterinary school the various classes on the subjects included in Examination D.

(67.) No rejected student shall be eligible for re-examination at an interval of less than ten weeks between the dates of rejection and re-examination.

This concluded the business of the Quarterly Meeting of Council.

SPECIAL MEETING OF COUNCIL.

A Special Meeting of Council was held immediately after the Quarterly Meeting, the same Members being present as at the previous meeting.

The only business on the agenda was the following notice of motion by Professor M'Fadyean:—"To amend Rule 10 of the Regulations for the Walley Memorial Prize, by the omission of the words 'Four of which must be attempted.'"

Professor M'FADYEAN formally moved the motion, which he said he thought the Council thoroughly understood.

Professor METTAM seconded the motion, which was carried unanimously.

The Council then adjourned.

Royal College of Veterinary Surgeons.

EXAMINATIONS IN DUBLIN.

AT a meeting of the Board of Examiners, held in Dublin on December 12, for the written, and on December 19th for the oral, the following passed their First Examination:—Messrs. G. J. Bell, S. Black, C. J. Clibborn, T. J. Dicker, C. M. Griffin, J. H. Morgan, A. M. S. Rice, E. A. Phipps.

Royal College of Veterinary Surgeons.

CLASS A.—MEMBERSHIP EXAMINATION, 12TH DECEMBER 1902.

CHEMISTRY AND ELEMENTARY PHYSICS.

1. Describe two or three experiments by which the pressure of the atmosphere can be demonstrated. What does it amount to in pounds per square inch? What is the average height of the mercurial barometer?

2. Write the formulæ of ferric oxide, ferrous sulphate, silver nitrate, potassium cyanide, glucose, ethylic ether, potassium bromide, potassium ferrocyanide, urea, sodium bicarbonate, ammonium nitrate, phenol. By what tests would you identify ammonium nitrate and potassium cyanide?

3. What is the composition of glycerin, and how is it obtained? By what tests would you distinguish a solution of cane sugar from one of glycerin?

4. Describe experiments showing the effects of pressure on boiling point. State clearly the resemblances and differences between evaporation and ebullition.

5. Describe the preparation of dry ammonia gas, and state what happens when it is passed through a red-hot tube, into dilute sulphuric acid, and into solutions of copper sulphate and of ferric chloride. Give equations.

6. Describe the manufacture of oxalic acid, and state the action on it of lime, potassium carbonate, and strong sulphuric acid. Give equations.

ANATOMY.

1. Give the articulations of the occipital bone in the horse, its centres of ossification, and the foramina connected with it.

2. Mention the different classes of bones, give a brief description and an example of each.

3. Name the ligaments and give their attachments of the hip joint of the horse, state any difference in the equidæ and other animals.

4. Describe the coffin joint of the horse.

5. Compare the axis of the horse, ox, pig, and dog.

6. Name the air sinuses of the horse's skull, their relative sizes, and describe how they communicate with one another or other cavities.

BIOLOGY.

1. What is the *inflorescence* of a plant? Give an account of the peculiarities of racemose and cymose inflorescences respectively.

2. Describe the manner in which starch is formed in a green plant. What conditions are necessary for its formation?

3. Give a careful account of the arrangements of the different parts of the flower in the natural order Cruciferæ.

4. Explain how the following animals are able to move about:—Amœba, starfish, earthworm, garden snail, bee, salmon, pigeon.

5. Give some account of the life-history of the following forms, after they hatch out from the egg:—Common tapeworm (*Tænia solium*), blow-fly (*or* bot-fly), frog.

6. By what characters are mammals distinguished from other backboned animals? Name any three mammalian orders, and give their distinctive features.

CLASS B.—EXAMINATION, 12TH DECEMBER 1902.

HISTOLOGY AND PHYSIOLOGY.

Histology.

1. Describe the epithelium met with in the following situations:—
   (*a*) Ureter.
   (*b*) Bowman's capsule.
   (*c*) Ascending and descending limbs of Henle's loop.
   (*d*) Oviduct.

2. Describe the nerve cells in—
   (*a*) Spinal ganglia.
   (*b*) Ventral horn of spinal cord.
   (*c*) Cerebral cortex.

3. Describe the low power appearance of the thymus gland in a young animal.

Physiology.

1. What changes take place in the capacity of the thorax during inspiration, and how are they accomplished?

2. What factors influence the output of (*a*) carbonic acid, and (*b*) urea?

3. Describe fully the changes which take place in the eye when light falls upon it.

ANATOMY OF DOMESTICATED ANIMALS.

1. Describe the abomasum, giving its situation, relations, and blood supply.

2. Describe briefly the intestines of the dog.

3. Give the origin, situation, course, and relations of the following :—

(*a*) The cephalic vein.
(*b*) The vertebral artery.
(*c*) The anterior tibial nerve.
(*d*) The large metatarsal artery.

4. Give the origin, course, and distribution of the superior maxillary division of the fifth nerve.

5. Describe the male urethra.

6. Give the attachments, actions, and nerve supply of the following muscles :—

Psoas parvus.
Sterno maxillaris.
Pectineus.

CLASS C.—EXAMINATION, 12TH DECEMBER 1902.

MORBID ANATOMY, PATHOLOGY, AND BACTERIOLOGY.

1. What are the causes of dropsy? Explain how they act. What changes in structure and function may follow upon a dropsical condition?

2. Describe the macroscopic and microscopic appearances seen in acute pericarditis.

3. Explain and describe the origin, course, and termination of a typical case of pyæmia.

4. Give an account of the pathology of fowl cholera. Describe the casual organism under the following headings :—

(*a*) Morphology and staining.
(*b*) Cultural characteristics.
(*c*) Pathogenicity.
(*d*) Production of immunity.

5. Describe hypertrophy of striated and of unstriated muscle. What are the chief causes of hypertrophy of the heart?

6. Give as full an account as you can of the pathology of equine strangles.

DISEASES OF ANIMALS OTHER THAN THE HORSE.

Three Years Course.

1. Give the causes, symptoms, and treatment of diarrhœa in following, viz. :—

(*a*) Calves.
(*b*) Yearlings.
(*c*) Aged cattle.

2. Name two or three of the diseases affecting the liver in cattle and sheep. Give symptoms and treatment.

3. What steps can be taken to prevent the appearance of distemper in

a kennel of foxhounds? How would you attempt to get rid of it if already present?

4. What do you mean by the terms laparotomy and enterotomy respectively? Describe either one or the other in detail, taking a dog as the patient.

MATERIA MEDICA, PHARMACY, THERAPEUTICS, AND TOXICOLOGY.

1. Give the preparation, therapeutic actions and doses of following, viz.:—Creta preparata, sodium bicarbonate, sodium chloride, and sodium hyposulphite.

2. Write prescriptions as follows:—

(*a*) Astringent lotion suitable for feet of cattle and sheep.
(*b*) Anodyne liniment for dog.
(*c*) Anthelmintic powders for horse.

3. Describe the treatment and antidotes suitable in poisoning by tobacco, antimony, laburnum, and zinc salts.

4. Define the terms, anhidrotic, analgesic, hypnotic, cathartic, vascular tonic, and vermifuge; give two typical examples of each.

5. Give the preparation, therapeutic actions, and doses (for an adult cart horse and a three months' old old fox terrier respectively) of:

Santonin, quinine, salicylate of soda and bromide of potassium.

6. Name three reliable external parasiticides for the dog, and give one complete prescription which could be used, with safely to the patient, as a dressing all over the skin at one time.

VETERINARY HYGIENE AND DIETETICS.

(Numerical calculations to be shown in full. Diagrams may be used.

1. What would you consider to be

(*a*) Hereditary defects in conformation;
(*b*) Hereditary disease

in stallions and mares that would render them unfit for breeding purposes?

2. Give the normal amount of CO_2 in the atmosphere; the permissible amount in a stable, and the methods of estimating the amount present.

3. What are the advantages and disadvantages of having drinking water always before a horse?

4. Give a few directions for the management of a horse's feet.

5. What are the advantages and disadvantages of bales or fixed stalls in stables?

6. What directions would you give as to the feeding of a cow subject to choking?

CLASS D. EXAMINATION, 12TH DECEMBER 1902.

PRINCIPLES AND PRACTICE OF VETERINARY MEDICINE.

1. Write an account of metritis in the mare, its causation, symptoms, treatment and sequelæ.

2. Describe the symptoms and post-mortem appearances of arsenical poisoning in the horse.

3. Discuss yew-poisoning in cattle, the symptoms produced, treatment to be adopted, and post-mortem appearances.

4. How would you diagnose an outbreak of anthrax in a herd of cattle, and what steps would you take to arrest it? Describe the symptoms of the disease and the changes found on post-mortem examination.

5. What is the cause of auricular acariasis in the dog? Describe the symptoms of the affection, and note any which might lead to a mistaken diagnosis. Indicate your line of treatment.

6. What are the causes of acites in sheep? Describe the symptoms, and state what treatment you would recommend.

7. Discuss the so-called red water (hæmoglobinuria) of cattle, especially in regard to symptoms and treatment. Give your views upon the etiology of the affection.

8. Indicate your treatment of vomition in the dog, induced by three distinct causes.

PRINCIPLES AND PRACTICE OF VETERINARY SURGERY.

1. Describe the surgical procedure you would adopt for the radical cure of inguinal hernia in a dog.

2. Describe the treatment you would adopt for synovial discharges from wounds, as follows:—(*a.*) Broken knee. (*b.*) Open sheath of tendon through over-reach. (*c.*) Punctured stifle joint.

3. Swelling of the legs appears in horses as the result of well-known diseases. It is also seen as the result of injury, and sometimes as a symptom of want of "condition." State how you would differentiate these various swellings.

4. What constitates "over-stocking" in cows? Give the symptoms which might render it "cruelty to animals." What artificial means are employed to prevent the flow of milk?

5. Lameness in horses may be due to pain or to inability to support weight on the limb. Give two cases of each kind and explain them.

6. What are the symptoms following parturition denoting injury to the pelvic bones? State the treatment you would adopt if necessary or advisable.

7. What is a cicatrix? Describe the condition as it follows "broken-knee," and state how a permanent blemish results in some cases and not in others.

8. Name the diseased conditions affecting the appendages of the eye in the horse, and the surgical treatment that may be used for their relief.

THE NATIONAL VETERINARY BENEVOLENT AND MUTUAL DEFENCE SOCIETY.

THE Annual Meeting was held at the Grand Hotel, Aytown Street, Manchester, on Thursday, December 4th, W. A. Taylor, Esq., Vice-President, in the chair. Present: Messrs. T. Hopkin, Wm. Woods, A. Lawson, E. Faulkner, F. W. Somers, J. M'Kinna, R. C. Edwards, Harry Locke, A. W. Mason, E. S. Gubbin, J. E. Scriven, H. D. Chorlton, A. Munro, and the Secretary.

Minutes of last Annual Meeting were taken as read and confirmed, the same having been printed and circulated.

Letters of apology for non-attendance were received from Messrs. J.

Sutcliffe Hurndall, J. E. Kitchen, J. F. Simpson, H. J. Dawes, F. Hobday, W. Carless, Geo. Morgan, A. I. MacCallum, A. L. Butters, J. S. Carter, and Professor W. O. Williams. A letter was also read from Mr. John Howard regretting his inability to attend owing to a severe indisposition, and making some remarks regarding the motions standing against his name.

The CHAIRMAN then read an address he had received from the President, Mr. Geo. Morgan :—

"Gentlemen—Since we last met, another year has been added to the flight of time—a year full of very memorable events, such as the cessation of the war, the dangerous illness of the King, the successful operation and subsequent recovery to health, are matters of very great moment that are sure to claim the notice of future historians of the period through which we have just passed.

"As far as the National Veterinary and Mutual Defence Society is concerned, we have done a good work in the relief of several deserving cases, and one important case has, I am glad to say, been successfully defended.

"I should have liked to have witnessed the federation of the other Societies with this, which I feel certain would prove a great benefit to the whole of the veterinary profession.

"I am now getting on in years, and feel that the time has arrived when I should separate myself from the Council, which I have served in one office or another for thirty-seven years, and make room for a younger man.

"I cannot, however, take leave of the Council without acknowledging and thanking them for the courtesy and kindness I have always received at their hands ; and if at any time I have given offence to any of the members, I am sure they will attribute it to extra zeal in the interests of the Society, and not to personal animosity, as such a thing I never for one moment entertained.

"To the whole of the Council I shall ever entertain warm feelings of gratitude and pleasant memories of social intercourse in the transactions of the Society, and shall look forward to its future development at their hands with the deepest interest."

The HON. SECRETARY.—I have pleasure in once more presenting the annual report of the proceedings of this Society. During the year we have enrolled twenty-one new members. Two have been struck off in consequence of being £2 : 2s. in arrear, as per resolution passed at the last annual meeting, and one has died. We have at present 260 subscribing members.

Your Council have had several cases presented to them for assistance and advice. This has been freely given, but in two or three instances your Society could not legitimately support or defend, one case in particular, in which a shoeing smith brought an action (claiming £75 damages) against a veterinary surgeon for injuries received whilst shoeing a horse. Your Council considered such to come under the "Employers' Liability Act." The object of this Society extend only in cases of unjustifiable action on the part of the public against members. One case claiming damages nearly £50 it was decided to defend, and I am pleased to report a verdict was given in favour of the defendant, with costs.

I have to report that Professor W. O. Williams, of the New Veterinary College, Edinburgh, has placed at the disposal of the Society a "free studentship" in memory of his late father. This was accepted with thanks, and already a nomination has been made, the recipient commencing his studies in October last.

The Council acknowledge with thanks a cheque for £2 : 3 : 7 from the Provisional Committee (Edinburgh) National Veterinary Association. We have voted the following for benevolent purposes :—five sums of £5, and two of £10, besides certain sums voted 1901 paid monthly.

The TREASURER, in presenting his report and balance-sheet, congratulated the members on its sound financial condition—intimating that at the end of the year this account would be audited, and a copy of the balance-sheet forwarded to each member, and suggested that a meeting of the Trustees and Council be called at an early date in regard to investment of funds, &c. He also called the attention of the meeting to a number of arrears, and it was resolved that three gentlemen who were £2 : 2s. in arrear be again written to and asked for payment, and if not paid before December 31st, 1902, they were to be crossed off the roll.

The CHAIRMAN called the attention of the meeting to the proposed alteration of rules, and asked if any member wished to move the adoption of them : there being no response, the matter was left in abeyance.

ELECTION OF OFFICERS.

The following gentlemen were appointed officers for the year 1903 :—

President.—W. A. Taylor, F.R.C.V.S., Manchester.

Vice-President.—W. Woods, F.R.C.V.S., Wigan.

Treasurer.—E. Faulkner, M.R.C.V.S., Manchester.

Secretary.—Sam Locke, M.R.C.V.S., Manchester.

Council.—J. Abson, F.R.C.V,S., Shefficld ; A. L. Butters, M.R.C.V.S., London ; J. S. Carter, F.R.C.V.S., Bradford ; T. Hopkin, F.R.C.V.S., Manchester ; A. Lawson, M.R.C.V.S., Manchester ; A. W. Mason, F.R.C.V.S., Leeds ; R. S. Reynolds, M.R.C.V.S., Liverpool ; J. E. Scriven, M.R.C.V.S., Tadcaster ; W. Shipley, Jun., F.R.C.V.S., Great Yarmouth ; F. W. Somers, M.R.C.V.S., Leeds ; R. C. Trigger, F.R.C.V.S, Newcastle-under-Lyme ; J. B. Wolstenholme, F.R.C.V.S., Manchester.

Auditors.—Messrs. Butcher, Litton, Pownall, and J. B. Wolstenholme.

A vote of thanks was passed to the retiring officers for their services during the past year; also a special vote to Mr. George Morgan, the retiring President, in which general regret was expressed at his desire and wish to retire from that position, and the Secretary was requested to write him to that effect.

SAM. LOCKE, *Hon. Sec.*

Original Papers.

LANCASHIRE VETERINARY MEDICAL ASSOCIATION.

AT the quarterly meeting of the Lancashire Veterinary Medical Association on December 4th, 1902, Mr Lloyd submitted the fractured tibia of a horse which slipped on some concrete pavement in Sheffield, and read the subjoined notes.

FRACTURE OF THE TIBIA.

Fracture of the tibia is usually oblique in its direction, it may be partial or complete, simple or compound, sometimes it is comminuted and occasionally is complicated. The displacement of the fractured bone may be primary or secondary.

The predisposing causes to fracture of this bone are those associated with fractures generally, viz., malnutrition, as seen in pregnant mares; exceptional brittleness—as seen in old age; diastosis—as seen in young animals where the epiphyses become torn away from the shaft of the bone. Osteomyelitis, osteo-porosis, and other diseased conditions of bones are not, I believe, commonly met with in the tibia of the horse. No doubt the one great predisposing cause is the unprotected condition of the bone throughout the lower two-thirds on its internal aspect, and of the lower extremity on both sides. It will be remembered that the bone on its internal side is only covered by skin, a strong fascia, supplied by the gracilis and biceps rotator tibialis muscles, and by periosteum, there being no muscular covering.

The actual causes are usually some kind of mechanical violence, such as blows, kicks, falls, &c. The violence is usually direct, as a kick from another horse, a blow from a stone, a fall on a slippery road or in casting for operations. There is also a kind of indirect violence—inordinate muscular traction—that may cause fracture of the tibia, examples of which may be seen when the bone is fractured, after casting and during operations, by violent struggles, also when the side line is in use, and occasionally due to strain when slipping on slippery roads or pavements.

The seat of the fracture is usually through the shaft of the bone, sometimes it is through one or other of the extremities. In the latter cases the fracture is complicated by injuries to the respective joints. In other cases injuries to the tibial artery, vein, and nerve may accompany the fracture. The symptoms of fractured tibia in obscure cases may be very indefinite. There may be an extensive partial fracture and little or no lameness, in fact the animal may be working when displacement occurs. In many cases, however, there is lameness, and this may be accompanied by heat, swelling, and tenderness of the injured part. No doubt in all cases careful manipulation and pressure would indicate the seat of injury, but with no external and visible symptoms the condition may easily be overlooked. In one case which came under the writer's observation there was considerable constitutional disturbance, accompanied by acute suffering, spasmodic jerking of the limb, rigidity and extreme coldness of the lower extremity. At that time there was no external symptom, although in a few hours the thigh rapidly became swollen and inflamed, but it was not until some days later, when the swelling had considerably declined, that displacement took place. At post-mortem examination the cold condition of the limb was found to be due to excessive hæmorrhage at the seat of the fracture, caused by rupture of the blood-vessels. When the fracture is compound diagnosis is usually easy. The presence of a punctured wound on the inside of the thigh at once directs attention to the part, and the position of the wound should cause veterinarians to suspect the existence of a fracture. If the fracture is complete and accompanied by displacement of the bone a correct diagnosis is of course at once possible.

However, in many cases of fractured tibia there is no wound and no displacement to guide the practitioner, and in such cases diagnosis is not easy. Owing to the strength of the fascia and periosteum covering the

bone displacement may not occur for several days. Probably partial fracture of the tibia in many cases does not become complete and is not accompanied by displacement. In such cases the presence of a callus on the surface of the bone may be the first indication that the bone has been the seat of fracture. Several instances have been met with by the writer where the displacement has not taken place for a considerable time after the infliction of the injury. In one case, where a pony had received a punctured wound on the inside of the thigh caused by a boy throwing a stone, displacement did not occur for a week, and then probably would not have occurred had the animal not accidentally trodden upon half a brick. In another case the only cause of the fracture that could be ascertained was a slip on a concrete stable floor. In this case displacement took place in six days, probably from the animal attempting to lie down. In other cases the writer has seen the bone displaced at once. One of these was due to a kick from another horse whilst in the field; another occurred at a veterinary college whilst the animal was being fired, being at the time secured with a side line.

Regarding treatment, if partial or incomplete fracture of the tibia is suspected, the first thing to do is to get the animal into slings and to immobilise the limb. The late Professor Williams, in his "Principles and Practice of Veterinary Surgery," recommended wrapping or bandaging the limb with tarred cord. The writer thinks a charge would probably be of service, whilst he has heard of a mild blister being applied to the part in order to cause a temporary swelling which would act as a bandage. Bandaging with ordinary bandages, from the nature of the part, is usually not very efficient. When resorted to some kind of adhesive bandage would, no doubt, be of great service. When there is an accompanying inflammatory swelling or a punctured wound the usual palliative treatment should be adopted. Where displacement has occurred it is usually best to immediately destroy the animal and end its suffering, as it is rarely possible to make a successful cure. In cases of simple but complete fracture in foals reduction may be attempted, and particularly should this be tried in the case of pedigree fillies which may be valuable for breeding purposes.

LAPAROTOMY.

Mr. MUNRO described the operation of Laparotomy which he performed on a horse, and showed a specimen of the calculus removed. The operation appeared to have been skilfully and successfully carried out, and the animal would have made a good recovery but for the appearance of further seven calculi.

Mr. Munro exhibited photographs of the horse, showing the position of the wound, and also showed specimens of the humerus of a racehorse and femur of a horse.

Mr. FAULKNER said when the colt referred to by Mr. Munro came under his observation he was of opinion there was atrophy of the caput muscles, with a slight enlargement at the front of the shoulder joint, involving the coracoid process and bicipital groove, and that there was ulcerative disease in the anterior portion of the articulation, the tendon of the flexor brachii muscle being implicated. As stated by Mr. Munro, the animal when lame had a difficulty in extending the limb, but it was singular that whilst kept fastened up by the head and on exercise he would

go out sound and keep so, and when turned loose in his box would invariably become very lame.

Clinical Notes.

DROPSICAL EFFUSION.

Mr. Packman.—So long ago as our last annual meeting (and after I had dined), in a moment of absent-mindedness, I consented to contribute something at one of these meetings. Since then our worthy Secretary, with the tenacity of a bull-dog, has stuck to me, and I have been reminded of my promise on more than one occasion. I really do not know why he used to be so anxious, unless he is like that individual in the band in a tale told in Max Adeler's "Out of the Hurly-Burly," who, when a gentleman had a great idea that nature had designed him for an orator, and when the individual with the drum perceived what a failure he was likely to be, he thumped it with delight, as much as to say, "Your hour has come."

I have only a few remarks to offer you respecting a case or two which have come under my observation during the last few weeks, and I shall not detain you long in giving the particulars, but hope a profitable discussion may follow.

The few clinical notes of the first case are as follows:—The subject, a bay mare, aged, had been used for van work, and had been in the owner's possession for upwards of twelve months. She had worked regularly without having suffered (or noticed to have done so) during the whole time, with the exception of a slight attack of colic on one occasion. On the day previous to my seeing her she had performed a hard day's work. and taken her food the night before apparently in good health. On the following morning the chest was very much swollen, and to such an alarming extent that I was requested to see her at once. I found the patient standing in a loose-box with an enormous dropsical swelling between the fore-legs. At this time there was no swelling elsewhere, the pulse was normal, the visible mucous membrane was slightly bleached, the temperature was also normal and the appetite good. I prescribed for her the best food, tonics, and freely scarified the swelling at the chest. The liquid which escaped was of a yellowish tint, and drained freely for hours. On the following morning, although, as previously mentioned, the draining from the scarification had taken place freely, the effusion was much more marked, and the neck now, as well as the chest, was enormously swollen—the legs, however, remained quite free. The swelling at the chest presented the appearance of a cow's udder considerably distended with milk. The nose and eyes were also involved; the appetite still remained good, and the temperature normal; the treatment consisted as on the first day, The following morning the patient's head was so large and heavy in consequence that the poor beast could only lift it about a foot from the ground. The dropsical condition had also considerably increased in the neck and chest, and the fore-legs now commenced to show evidence of the same thing. On the afternoon of the first day she fell down in an exhausted condition, and I advised the owner to have her destroyed. This, however, was not carried out, and the following morning I was informed she was very much better, and the swelling—particularly in the region of the neck and head—was much less, and she was again on her feet. When I saw her I found the condition of things as stated—in fact the head was carried with less difficulty, and she tried to move the jaws to eat a little mash which was placed

in front of her. The animal, of course, had been down all night, and this no doubt brought about the relief and her improved condition generally; but I was not surprised when I was informed that she had only managed to stand a few hours and died the following morning. The immediate cause of death was no doubt due to apnœa.

The post-mortem was made a few hours after death; on opening the abdominal cavity I found the intestines somewhat pale in colour, but nothing to call for further remarks; the liver was slightly congested, but apparently perfectly healthy; the kidneys also were in the same condition. Upon opening the thoracic cavity I found little or no effusion within the chest. The costal pleura on the left side exhibited a patch about 6 inches diameter of congested pleura. This, however, was quite localised, and the rest of the pleura appeared perfectly healthy. On removing the lungs both were extremely œdematous, and at first glance had all the appearance of being in an inflammatory condition. When pressed, however, the effusion contained in the air vesicles and interstitial tissues readily escaped, and both completely collapsed. I am inclined to think this was the effect of the disease, and not the cause. Examining the pericardium, I found it perfectly normal. The external appearance of the heart was apparently in the same condition; on incising the right side both auricle and ventricle were natural, and on a similar examination of the left side being made the auricle was found to be healthy, and the ventricle showed marked evidence of acute endocarditis. One of the bicuspid valves had a small growth (vegetation) upon it; the cardiac tendinæ were slightly congested, and the other organs were perfectly healthy.

Remarks.—The post-mortem, I may say, was a disappointment to me, as I fully anticipated finding evidence of some direct injury to the thoracic cavity, or to the presence of some foreign body somewhere in the neighbourhood of the heart or pericardium. I confess I am at a loss to understand what gave rise to the inflammatory patch of pleura, for externally there was no evidence of injury. Of course it might have received a direct blow, the external tissues gave but little or no evidence of it. Again, was the endocarditis responsible for bringing about this sudden condition of things? I am fully aware there is nothing very extraordinary about the enormous dropsical swelling, still I think there is about the suddenness of its appearance, for, as previously stated, no constitutional disturbance was observed when the animal was left at night, yet in the morning there was presented this unusual condition of things.

SARCOMA IN THE HORSE.

Case No. 2.—The few notes of the second case I desire to briefly lay before you allude to a bay gelding, six years of age, which had been regularly worked between Bury and Manchester. When I first saw him he was suffering from a slight attack of influenza. In the course of eight or ten days, with the usual treatment, he appeared to have completely recovered from this, and he was placed on light work. Although only working a few hours a day he continued to lose flesh, particularly about the neck and thighs, and the skin generally presented a very unhealthy appearance. It was noticed that the abdomen became greatly distended, especially at the right side and lower part, where it was most prominent. Upon auscultation at the flank I detected a low, indistinct murmur, evidently not referable to the abdominal viscera. On examination being made per rectum a

hard mass could be felt by the tips of the fingers, and, when pressed against, there was a feeling almost like a weak pulsation, synchronous with the sound heard during the auscultation. There had been a large amount of flatulence, which kept the bowels in a state of motion, and this, together with a loud rumbling noise, added considerably to the difficulty of the diagnosis. The appetite still continued good, and, with the exception of the wastage which continued, the patient appeared to suffer little or no inconvenience, except in the act of lying down, when he invariably gave expression to a painful grunt. Perfectly convinced now that the animal would do no good, I ordered it to be destroyed, and on the afternoon of the same day a careful post-mortem examination was made.

On making an incision along the line of the linea alba, no sooner were the walls of the abdomen cut through when a very large quantity of dark-coloured serum escaped. Neither the intestines nor the peritoneum covering them showed signs of any disease. On carefully removing the same, a large growth (weighing 128 lbs.) reaching nearly from the brim of the pelvis to the diaphragm was disclosed, and on examination this was found to be surrounded by the peritoneum, beneath which was also a layer of thin tissue infiltrated with serum mixed with blood. I was most anxious to ascertain the origin of the seat of this extensive disease, and also its attachments, but owing to the size and enormous weight of the mass, I found it quite impossible. On cutting through it the different lobes appeared to be firmly held together, and were hard and cartilaginous. There was no appearance of any blood-vessels having any direct opening into it, and the kidney structure could hardly be distinguished from the neoplasm. I sent a small portion to the Royal Veterinary College, and Professor M'Fadyean kindly informed me that the nature of the growth was a small round-celled sarcoma.

The singularity of the case, to my mind, is that the animal should apparently suffer so little, considering the extraordinary size and weight of the growth.

These, gentlemen, are the few notes. Being anxious not to again break my promise is my only excuse for venturing to place them before you this evening, and I trust they may be of some slight interest and worthy of your consideration.

SLOUGHING OF PORTIONS OF VAGINAL WALLS.

Mr. TAYLOR submitted a most unique specimen of slough from the walls of the vagina of a cow. When called to see the animal early in October last he was informed that she had calved out in the field without extraneous aid and had apparently cleansed all right, but that at times she strained terribly to expel something at the vagina. Though he had no fear of eversion of the womb taking place he had trusses put on, but the animal lost her appetite and still continued making these violent efforts: temperature was somewhere about 103. He therefore opened the vulva and found some sloughing taking place, so that with the other symptoms he concluded that there was a good deal of inflammation of the vagina, probably of a traumatic character, and that septic infection was taking place. That being so, he deemed it unwise to make a manual exploration of the vagina, and instead he injected, by means of Read's syringe (and the animal ejected the greater part of it), hot chinsol fluid. He gave the cow some medicine composed of belladona, quinine, and warm ale, and ordered it to be given

night and morning, and gave instructions for a gallon of the chinsol fluid to be injected into the vagina night and morning. This treatment was continued until the end of October, when the specimen now produced was brought to him as having come from the vagina. The animal continued to strain more or less and some portions of slough still kept coming away. There was also some suppuration, the stench of the discharge being very great, but which somewhat subsided. Afterwards the discharge gradually reduced and the cow improved generally, but the two gallons of chinsol fluid was still continued.

On the 17th November he received an intimation that the animal was worse and he feared that stricture was taking place, and that some of the discharge was being retained. On visiting the cow he found complete loss of appetite and an entire absence of the secretion of milk. On further visit next day the animal was worse, so he ventured to make a careful manual examination of the vagina. Anointing his hand and arm with vaseline he proceeded to slowly and steadily feel the condition of the vagina, and on passing his hand up some six or seven inches he found that there was a stricture taking place within the vagina. Gradually working through this so as if possible not to create any wound—a slight hæmorrhage, however, occurred—he found a collection of pus and débris anterior to the stricture, and this he had removed and the part washed out. From this manual examination he concluded that the rumen had been over-distended with food, the attendant having overfed the animal. The injection of the fluid was still continued, but only a gallon per day, and the cow was going on very well in all respects. He advised her being fattened for the butcher and not put to breeding purposes again. He attributed his success in this case to the policy of refraining from making a manual examination of the vagina.

IMPORTATION OF CATTLE INTO CAPE COLONY.

We have received a copy of the regulations published under Proclamation No. 75 of 1900, relating to the examination and quarantine of cattle for the disease known as tuberculosis, whenever such cattle are introduced by sea into the colony of the Cape of Good Hope from any place other than the colony of Natal. They are as follows:—"1. The word 'cattle' in these regulations shall be taken to mean and include all animals of the bovine tribe. 2. No cattle shall be allowed to enter this colony by sea until the conditions set forth in these regulations are complied with. 3. If there shall be produced to the officer authorised by the Government to make the necessary examination of cattle under the provisions of the Animal Diseases Act, No. 27 of 1893, a certificate signed by a duly qualified veterinary surgeon of the country from which such animals have been brought, to the effect that they have, before being embarked, been submitted to the test known as the tuberculin test, and have not given any reaction indicative of the presence of tuberculosis, and if upon examination the Government officer shall have reason to believe that they are free from any contagious or infectious disease, he shall forthwith give a permit for their landing at any port or place in this colony. 4. In the absence of a satisfactory certificate as aforesaid the cattle shall be removed to a place provided by the Government for quarantine purposes, and shall be subjected by a Govern-

ment veterinary surgeon to the necessary testing by tuberculin to ascertain whether they are or are not affected with tuberculosis. 5. In the event of the test indicating the existence of tuberculosis, the animals shall not be removed alive from the quarantine station, but shall be destroyed there, and the owner shall be allowed to deal with the carcases as he may think fit, provided, however, that the flesh shall not be used for human consumption unless the said officer shall give a certificate that it is fit for that purpose. 6. All expenses of inspection, quarantine destruction, and otherwise shall be borne by the owner of such cattle. 7. The foregoing regulations shall not apply to cattle entering by sea from the colony of Natal, so long as similar regulations remain in force in that colony, nor shall they apply to cattle imported solely for purposes of slaughter, provided that, before being landed, they shall be inspected by the officer referred to in the third section of these regulations and declared to the best of his belief to be not unfit for human consumption, and the owner or importer shall sign and deliver to such officer an undertaking to the effect that none of such animals shall be used or disposed of for any other purpose than for immediate slaughter for food."

ARMY REMOUNTS.

We have received from the Hunters Improvement Society the following suggestions, which were adopted by the Council on December 11 :—

1. We are of opinion that the King's premium horses in the United Kingdom should be considerably increased under the auspices of the Royal Commission on Horse Breeding, if the Commission see their way to recommend the same.

2. The Government should distribute among suitable farmers of the United Kingdom the cast mares from artillery and cavalry, free from hereditary diseases and suitable for breeding purposes, and which may be used quietly on the farms.

3. The mares to remain the property of the Government, being lent to farmers for breeding purposes, and, should they not breed, to be returned to the Government.

4. The Government to pay the service fee to a premium or registered sire, and to have the refusal of the produce at three years old off, the same to pass the veterinary surgeon, and to be taken at the fixed *minimum* price of £35 on September 1st of each year, if bred as stated.

5. That small prizes of £5, £4, £3, and £2, according to the number of entries, should be given at country shows for the best and most suitable animals, undocked, when the Government inspector might claim all shown in these classes at £35 each, if suitable.

6. On September 1st the selected animals would become the property of the Government at the prices agreed upon, the sum to be paid at once to the owner, and he in return to agree to keep the animal for one year, more or less, at the rate of 4s. a week, the same to be kept in healthy condition; should the horse not remain in good condition, the Government would reserve the right of reducing the amount to be paid for keep accordingly.

7. The purchased animals to be branded or marked in some way so as

to identify them whilst in the farmers' possession, and a local person living in each district should be appointed to look after the mares lent and the produce of same, who shall report in the first place to the secretary of the Hunters Improvement Society, who will then communicate with the War Office.

8. The Hunters Improvement Society would be willing to assist the scheme in every possible way, and consider that it would further the object of encouraging the breeding of horses suitable for the Army, and would bring the Remount Department and breeders in direct communication with each other.

9. The special committee consider that any scheme of breeding horses or of establishing large remount depôts would be much more costly to the Government than the scheme above suggested by the committee, and further, that whereas Government breeding establishments would discourage farmers in breeding for the Army, the latter would encourage them to do so. The committee think that, unless something of this sort be done, there will be fewer and fewer available horses bred every year in this country, and in case of war breaking out there would be no remounts obtainable at hand, when, perhaps, there might be difficulties in getting them from over the seas.

The advantages claimed for these suggestions are :—

(*a.*) The Government would be brought in direct contact with the farmer.

(*b.*) Who would receive the full price for his animal.

(*c.*) With the opportunity of securing one of the small prizes, enhancing the value of the animal to him.

(*d.*) By utilising the existing shows for the inspection and purchase of these remounts the necessity for creating any new machinery for bringing the horses together would be obviated and would save the Government any trouble in the matter.

(*e.*) Lastly, but most importantly, the scheme would enlist the sympathy and support of the British farmer in the production of suitable remounts, and in the encouragement of horse-breeding generally.

ABSTRACT FROM THE REPORT OF THE CHIEF INSPECTOR FOR QUEENSLAND OF STOCK AND REGISTRAR OF BRANDS FOR THE YEAR 1901.

WITH the exception of isolated cases of pleuro-pneumonia and occasional losses from tick fever in the central and southern coast districts, the health of the cattle stock has been very good. Of course, heavy losses still continue from drought. As in former years the returns of the veterinary inspectors under the Live Stock and Meat Export Act, as well as those of the trained inspectors under "*The Slaughtering Act of* 1898," have shown that tubercular disease is not by any means so prevalent in our herds as was at one time believed to be the case. It has, however, to be taken into account that cattle are slaughtered at younger ages than was formerly the case, tuberculosis being invariably more prevalent in old than in young cattle.

It will be a relief to our meat-consumers to know, on the authority of

Professor Crookshank, in his paper recently read before the Royal Society here, that the flesh of cattle suffering from actinomycosis is harmless as human food; *that the risk of eating the flesh of animals suffering from bovine tuberculosis is almost nil*, and that the term cancer should be eliminated from diseases affecting cattle. The Professor is clearly of opinion that the flesh of cattle suffering from any of the above diseases is not injurious to health, always assuming that they are in good condition at time of slaughter.

Cattle in the northern districts where the pest first appeared are now reported to be immune to tick fever, and, although in many cases ticks are present, they seem to cause no ill effects in the cattle. Cattle, however, from clean districts that are travelled into infested districts almost invariably contract the fever.

Experiments in dipping with various medicaments were continued during the year and, it is satisfactory to have to report, with a large measure of success. By permission, Mr. J. C. Brünnich, the Analytical Chemist of the Agricultural Department, undertook the preparation of a dip, based on that most generally in use, and popularly known as "Christian's dip." Mr. Brünnich's formula is as follows:—

Arsenic, ...	8 lbs.
Caustic soda, ...	4½ „
Tallow, ...	8 „
Best Stockholm tar, . . .	2½ gallons
Water, ...	400 „

The mode of preparation is as follows:—

(*a.*) Half fill with water a 5-gallon drum; add 2 lbs. of caustic soda, and boil. Then add slowly 8 lbs. arsenic. Add cold water in small quantities, to prevent boiling over, until the drum is full.

(*b.*) Boil 100 gallons of water in a 400-gallon tank; add 2½ lbs. of caustic soda, then 8 lbs. of tallow, and boil quickly. Add slowly in a thin stream 2½ gallons of Stockholm tar. When the whole of the tar has been added, boil from thirty to forty minutes, then add the solution prepared in accordance with instructions in (*a*). Gradually fill the tank with water and keep the mixture boiling until the tank is filled.

This dip was tested by Mr. Brünnich in presence of the Moreton District Inspector, and was found most effective. By the use of caustic instead of common soda, as in Christian's dip, the time occupied in boiling is greatly reduced. A large number of dairymen and others in Southern and Central Queensland prefer to use Erkenbrach's dip, commercially known as "skin poison," which they state they have found very effective, easily prepared, requiring no boiling, and does not injure the skin.

As has been frequently pointed out, a strict maintenance of the proclaimed quarantine lines and a rigid observance of the restrictions on the movement of stock within and out of infected areas have occasioned heavy monetary losses. The losses from ticks on our northern and central coastal districts on the earliest appearance of the pest were exceptionally severe; but, with our extended experience, we now know that a very large percentage of the deaths of cattle were not due to tick fever, but to

anæmia, caused by gross tick infestment. In districts where dipping has been extensively resorted to, and where, by that means, gross infestation has been prevented, deaths from anæmia have been all but unknown. All course, dipping does not protect the cattle from tick fever, but the mortality from that disease, where cattle have been periodically dipped—even where inoculation has not been carried out—has been small. Another great advantage resulting from dipping is that it prevents the maturing of female ticks, and renders fully developed ticks sterile, thus greatly checking the increase of the pest.

An impression appears to prevail, in some quarters, that dipping injures the stock, particularly dairy cows. The evidence of the dairy farmers in Southern Queensland disproves this. In one instant, the Moreton inspector reports that after dipping a herd of dairy cattle in his district the production of cream increased very considerably, and for only one day after dipping was the quantity reduced.

THE DISEASES OF ANIMALS ACTS, 1894 AND 1896.

London Gazette, January 9th, 1903.

THE Board of Agriculture have appointed to be Local Veterinary Inspectors, for the purposes of the above-mentioned Acts, J. F. Abell, Esq., M.R.C.V.S., Derby; J. Abson, Esq., F.R.C.V.S., Sheffield; G. A. Barham, Esq., F.R.C.V.S., Cambridge; John Bell, Esq., M.R.C.V.S., Carlisle; J. Blakeway, Esq., M.R.C.V.S., Stourbridge; J. Buscomb, Esq., M.R.C.V.S., Stroud, Gloucester; W. J. Cade, Esq., M.R.C.V.S., Bristol; W. Careless, Esq., M.R.C.V.S., Stafford; F. W. Careless, Esq., M.R.C.V.S., Hereford; W. S. Careless, Esq., M.R.C.V.S., Worcester; F. P. Carter, Esq., F.R.C.V.S., Bradford, Yorks; J. H. Carter, Esq., F.R.C.V.S., Burnley; G. W. Care, Esq., F.R.C.V.S., Wye, Ashford, Kent; C. W. Crofts, Esq., M.R.C.V.S., Northampton; H. Crofts, Esq., M.R.C.V.S., Bedford; J. J. Crowhurst, Esq., F.R.C.V.S., Stratford-on-Avon; W. H. Crowhurst, Esq., F.R.C.V.S., Canterbury; R. W. Dawtrey, Esq., M.R.C.V.S., Chichester; J. R. Dykes, Esq., M.R.C.V.S., Wellington; G. H. Elder, Esq., M.R.C.V.S., Taunton; W. Fawdington, Esq., M.R.C.V.S., York; J. B. Goodall, Esq., F.R.C.V.S., Christchurch; W. Hall, Esq., M.R.C.V.S., Southampton; W. A. Hancock, Esq., M.R.C.V.S., Uxbridge; G. H. Harris, Esq., M.R.C.V.S., Sawbridgeworth; C. Hartley, Esq., F.R.C.V.S., Lincoln; J. P. Heath, Esq., M.R.C.V.S., Exeter; G. Holtham, Esq., M.R.C.V.S., Gloucester; R. J. Hicks, Esq., F.R.C.V.S., Market Weighton; G. B. Holden, Esq., M.R.C.V.S., Scarborough; R. C. Howard, Esq., M.R.C.V.S., Newbury, Berks; H. Hussay, Esq., M.R.C.V.S., Devizes; H. Jarvis, Esq., M.R.C.V.S., St. Leonard's-on-Sea; G. E. King, Esq., M.R.C.V.S., Abingdon; L. L. Leach, Esq., M.R.C.V.S., Boston; H. G. Lepper, Esq., M.R.C.V.S., Aylesbury; W. E. Litt, Esq., M.R.C.V.S., Shrewsbury; J. H. Loft, Esq., F.R.C.V.S., Grimsby; F. Low, Esq., M.R.C.V.S., Norwich; J. MacKinder, Esq., F.R.C.V.S., Peterborough; F. D. M'Laren, Esq., F.R.C.V.S., Beverley; A. New, Esq., M.R.C.V.S., Ampthill; H. Olver, Esq., J.P., F.R.C.V.S., Tamworth; T. Olver, Esq., M.R.C.V.S., Truro; C. W. Page, Esq., F.R.C.V.S., Banbury; J. M. Parker, Esq., M.R.C.V.S., Birmingham; F. M. Parker, Esq., M.R.C.V.S.,

Whitchurch, Salop; G. Parr, Esq., M.R.C.V.S., Salisbury; J. G. Parr, Esq., F.R.C.V.S., Leicester; H. Peele, Esq., M.R.C.V.S., Durham; W. Penhall, Esq., F.R.C.V.S., Barnstaple; T. V. Pettifer, Esq., F.R.C.V.S., Tetbury; A. Porritt, Esq., M.R.C.V.S., Preston, Lancs.; E. H. Pratt, Esq., M.R.C.V.S., Northallerton; D. Pugh, Esq., F.R.C.V.S., Sevenoaks; G. Radway, Esq., M.R.C.V.S., Lewes; W. M. Reeman, Esq., M.R.C.V.S., Bury St. Edmunds; J. Reid, Esq., M.R.C.V.S., Wells, Somerset; R. Roberts, Esq., F.R.C.V.S., Tunbridge-Wells; W. G. Schofield, Esq., M.R.C.V.S., Pontefract; W. Shipley, Esq. Jun., F.R.C.V.S., Great Yarmouth; J. F. Simpson, Esq., F.R.C.V.S., Maidenhead; F. L. Somerset, Esq., M.R.C.V.S., Chesterfield; J. F. Spence, Esq., M.R.C.V.S., Kettering; J. Storrar, Esq., M.R.C.V.S., Chester; R. C. Taylor, Esq., M.R.C.V.S., Colchester; W. H. Taylor, Esq., M.R.C.V.S., Nottingham; R. C. Trigger, Esq., J.P., F.R.C.V.S., Newcastle-under-Lyne; A. C. Wild, Esq., M.R.C.V.S., Woking; W. Wilson, Esq., F.R.C.V.S., Great Berkhampstead; W. Woods, Esq., F.R.C.V.S., Wigan; H. W. Young, Esq., F.R.C.V.S., West Stane.

SCOTTISH SOCIETY FOR THE PREVENTION OF CRUELTY TO ANIMALS.

New Ambulance for Animals.

88 George Street,
Edinburgh, *24th December* 1902.

The Directors of the Scottish Society for the Prevention of Cruelty to Animals having frequently had brought to their notice the fact of disabled animals having to wait for hours in the streets of Edinburgh and elsewhere before a float could be procured for their removal, decided to procure one of the best obtainable ambulances, and ordered one to be built by Messrs. John Beggs' Sons, of Philadelphia. This ambulance possesses all the latest improvements, and is similar to those in use by the New York and Pennsylvania Societies for the Prevention of Cruelty to Animals. One great feature is the moveable floor, which runs on rollers, and can be drawn right out and removed to any distance to the side of a fallen animal, which can then be turned over on to the floor, and drawn on it into the waggon by means of a windlass, which is attached to the fore-carriage. The ambulance is fitted with a sling and harness whereby an animal, when standing in it, can be secured from any violent jolting.

The Directors trust that veterinary surgeons and owners of animals will avail themselves of its use, when necessary, for all cases other than contagious diseases.

For further particulars as to terms for its use, and other conditions, apply to the Secretary at the above address.

Archd. Langwill, C.A.,
Secretary.

SCOTTISH SIDE ENTRY

THE CINEMATOGRAPH FOR VETERINARY DEMONSTRATIONS.

An ordinary meeting of the Edinburgh Veterinary Medical Society was held in the Theatre of the New Veterinary College on Friday evening, January 23rd, 1903.—Professor Taylor in the chair.

The first business was the exhibition by Principal Williams by the cinematograph of two typical cases of stringhalt. The actions of the two animals, a grey and a chestnut, being shown both in turning, going forward, and backing. The next case exhibited was that of a shiverer. It was as pronounced and typical a case of shivering as one could wish to see, the original of the picture being so bad that he was practically worthless for working purposes. This animal, when one tried to back him, had a most characteristic elevation and quivering of the tail, all of which was well depicted on the screen.

Dr. Chalmers Watson then gave a lantern demonstration on the microscopic lesions in the vascular and nervous systems of the above-mentioned grey horse affected with stringhalt. Afterwards Principal Williams gave a lantern demonstration on some sections of lungs from cattle affected with contagious pleuro-pneumonia and corn-stalk disease.

We believe that this is the first occasion on which the cinematograph has been brought into requisition for the purpose of demonstrating the different and distinctive movements of the lamenesses of the horse, and understand that this is the commencement of a series which Principal Williams is making for the demonstration of the various forms of typical lamenesses.

Translations and Extracts.

AUTOMATIC ACTION OF THE HOCK JOINT AND STRINGHALT.

BY M. BRETON.

M. H. Bouley has described stringhalt as an exaggeration of a physiological fact. The automatic action of the hock, which is easy to demonstrate in the dead body, is due to the disposition and perfect coaptation of the inclined planes that form the astragalo-tibial articulatory surface, so that the successive state of tension of both the superficial and deep-seated lateral ligaments cause these surfaces to glide over each other.

From measurements made on various hocks, it has been found that the greatest degree of flexion varies from between 127° to 130°, and that when this is the case the flexion of the joint takes place automatically. Anything that interferes with this automatic movement causes a voluntary semi-automatic contraction to be made to complete the flexion of the joint, giving rise to the jerk of stringhalt, which should be looked on only as a symptom, not as a specific disease.

(*Revue Vétérinaire*, July and August 1902.)

SUPPURATIVE HEPATITIS IN THE COW.

BY M. CHÉRET, ACY EN MULTEIN, FRANCE.

On December 15, 1901, I was called to a Flemish cow that used to become tympanitic after feeding. She was much swollen in the left plane, but there was no interference with the respiration. I prescribed for the animal, and she at once was relieved. I again saw her on December 17th. There was again meteorisation, which increased after feeding. The general health was good, except that there was slight loss of appetite.

Tuberculosis being suspected, the animal was tested, with a negative result, and minute examination failed to show any cause to suppose that a foreign body was exercising any chemical or mechanical derangement to the digestion.

On January 1, 1902, the animal was worse, the left and right planes being both very tense, the hair standing on end, loss of appetite, and rapidly progressing emaciation. The secretion of milk had fallen from 20 to 4 litres, but the temperature remained normal.

On January 3rd I noticed the abdomen was pendulous, and for the last two or three days the bowels had been constipated. Examination per rectum conveyed a sensation of fluctuation to the hand, and percussion showed dullness on both sides.

On January 5th the animal was slaughtered. The butcher informed me that when he opened the abdomen two or three bucketsful of clear yellow fluid escaped. The liver was extensively diseased, the left lobe being scleroid, and containing an abscess the size of a man's head, the pus in which was a yellowish white and very thick.

The nature of this abscess I am unable to give. All I can say for certain is that it was not due to an echinococcus.

(*Receuil de Médecine Vétérinaire*, Nov. 15, 1902.)

MUSCULAR ORIGIN OF HÆMOGLOBINURIA.

BY MM. CAMUS AND PAGNIZ.

The authors have established the influence that muscle has in hæmoglobinuria. A certain quantity of muscular tissue was removed from a dog under an anæsthetic, triturated, and worked with distilled water. The fluid was freed from blood-plasma by the addition of salt, and injected into the saphenic vein of a second dog, from which the urine was collected every ten minutes by means of a collector. In from ten to thirty minutes it became pink or deep red, according to the amount of the injection, but contained no blood corpuscles, and with the spectroscope showed the true bands of oxyhæmoglobin. When placed in the centrifugal machine the plasma was colourless, or only slightly tinged. The same phenomena are produced by any muscular lesion, or, for example, the injection of distilled water with the mass. These experiments have a certain interest in connection with the pathogenesis of hæmoglobinuria, "*a frigore*" in the horse, in which cases the lesions of myositis are very evident.

(*Academie des Sciences*, 11th August 1902.)

DISEASES OF LAMBS—PICA, DEPRAVED APPETITE, STUMP SUCKING OR LICKING DISEASE.

CLINICAL LECTURE BY M. G. MOUSSU, ALFORT VETERINARY COLLEGE, 15th January 1902.

GENTLEMEN,—I received this letter a few days ago. I wish to consult you about a severe enzootic that has broken out in the flock of one of my clients.

"Last Sunday I was called in to examine three lambs that had died during the night. During the preceding few days the deaths have amounted to fifteen. On post-mortem examination all I could find was hypertrophy of the liver, slight exudation into the abdomen, and the usual appearances of asphyxia.

According to the owner's account, most of the lambs presented no appearances of ill-health before death, the others appeared but slightly indisposed a few hours before. They continue to die at the rate of three or four per diem, causing considerable loss to the owner, who looks like losing the whole of his flock, 120 in number.

I am at a loss to know what measures to take, as I am unable to exactly diagnose the disease, so I send you the body of a lamb that died this morning, and ask the favour of your advice. The lambs that have died are from four to six weeks old; under fifteen days there has not been a case.

"There has been no umbilical phlebitis or foot-and-mouth disease in the flock. The ewes have been getting oats and barley in the straw, hay, and beetroots, but for the last few days turnips only. They are all in good milk."

Our confrère is somewhat puzzled, and before I made a post-mortem on the lamb sent, I confess to being much exercised as to what this outbreak could be, as the diseases of lambs are so numerous and complicated (infectious navel-ill, infectious pseudo-rheumatism, contagious pneumonia, tetanus after castration, and docking, &c.), and the mortality is in all of them great.

I am unable to show you the carcase of the lamb, but the following are the lesions. The body was in good condition, and even fat. The first thing that struck me on opening the abdomen, and which you will see is of considerable importance, was that the rumen was moderately full, but the abomasum stuffed to distention; the small intestines absolutely empty, and but little excrement in the large ones. The liver, as in most young subjects, was large but healthy, also the kidneys, and no effusion to speak of in the peritoneum. I removed first the stomach and afterwards the intestines, and noted the following appearances.

At the pylorus was a plug completely obstructing it. The abomasum was distended with partly digested milk, the reticulum and omasum empty, and the rumen filled with a black material which, however, did not interfere with the œsophageal channel.

The obstruction to the pylorus was composed of a felted mass of wool, débris of food, and mucus, and was the cause of all the trouble. The material in the rumen was of the consistency of indiarubber, and made up of the same materials. The small intestines were empty but healthy, the large intestines and rectum contained a little fæces. The left lung was slightly

œdematous and congested on account of the animal lying on that side, but otherwise the thoracic organs were healthy.

Diagnosis.—Gentlemen, it appears to me that what I have described is sufficient to account for the outbreak. On first reading our confrère's letter I thought we had to do with a contagious disease, and it was with this idea in my mind that I commenced the investigation. As it turns out, the matter is more simple and the cause before us. The cause of the mortality is that singular disease known as "Pica," and the immediate cause of death obstruction of the pylorus.

If any further proof is necessary I can say that, acting on the advice I have given, the enzootic has ceased. The whole circumstances of the outbreak correspond to the classical ones usually described in the text-books, viz.—the age of the subjects, absence of any severe symptoms, rapidity with which death takes place, and the post-mortem lesions, without seeing which in all probability the real cause might be overlooked. The case under consideration is, gentlemen, an object lesson to us as to the necessity of making a complete examination, as otherwise we run the risk of overlooking the true cause of disease.

Having made our diagnosis, another question arises. Why should the lambs on this particular farm be affected with *Pica* where they are well looked after and in good condition? One can easily understand its taking place in an ill-cared-for flock, especially if the ewes were short of milk, but in this case it is apparently not so. I am aware that some of the older writers attribute it to idleness from being bound for a long time, but it appears difficult to me to believe that this can be the case with very young animals well fed. I should have thought they would not think of anything but eating and sleeping.

It appears to me more reasonable to suppose that the habit is acquired through their getting the wool on the mother's udder into the mouth when sucking, as we know that a deficiency of salt in the food with growing animals will give rise to a depraved appetite.

Prognosis.—Whatever may be the reasons of the appearance of "Pica" the fact remains that it is there and we must face it. "Is the prognosis bad?" Wool is absolutely indigestible, and all the lambs that have swallowed enough are in danger of dying from obstruction of the pylorus, and it follows that the mortality may be high or low, but it is impossible to give an opinion about it. Possibly the shepherd who knows the individuality of each lamb might be able to inform us which have swallowed most wool, but if he was observant enough to notice it he would have taken steps to prevent the habit.

Treatment.—Are there any steps to be taken? The answer is, certainly, and furthermore, that such steps are efficacious, and in this case I have given the following advice:—

1. Separate the ewes and lambs.
2. Do not leave them longer together than is necessary for the lambs to suck.
3. Give the ewes a ration of salt in the food, or, better still, leave lumps of rock-salt in the trough.
4. Carefully notice those lambs that have a tendency to lick each other or swallow portions of each other's fleece.
5. Give the lambs a portion of roots and bran, well cut up, with some salt, not so much with the object of fattening them as to keep

them occupied. Those that show no tendency to lick can be returned to the ewes.

The owner should be impressed with the importance of giving the flock salt, and of carefully removing those that are beginning to lick, and these simple precautions will prevent the habit being acqulred, although, of course, they are useless for those that have already swallowed a large quantity of wool. Even in this case it is, however, possible that the offending substance may be eliminated without inconvenience.

Gastrotomy, as suggested by Lebas, or the use of solvents to the wool plug are not practicable, and the same applies to purgatives and emetics. Theoretically these last two appear to be correct, but in practice they have been found to hasten the result it is desired to avoid, by increasing the peristaltic action of the intestine, and causing obstruction. I advise expectant treatment after having taken the precautions I have mentioned.

Notes.—Pica is described in *Veterinary Medicine*, Law. vol. ii. page 76 and *Traite des Maladies du Betail*, Moussa, page 176. J. A. N.

The disease was a well-known one in Scotland, but now it is the regular custom of good shepherds, shortly before lambing time, to pluck off the long wool which may be on the udder of the ewe, and so obviate all danger. The process is known as *udder locking*.

The same disease occasionally occurs in young dogs from the tetanic spasm of the pylorus when irritated by a round-worm.

The symptoms are either delirium or coma, and on post-mortem the worm is found convulsively clutched in the pylorus. W. O. W.

NOTE ON THE EXISTENCE IN ALGERIA OF A TRYPANOSOMA DIFFERENT TO THAT OF DOURINE.

BY MM. M. BUZZARD, VÉTÉRINAIRE AU PREMIER, TUNIS, REMOUNT DEPÔT, AND SURGEON-MAJOR G. SCHNEIDER, MILITARY HOSPITAL, ORAN.[1]

DURING our first researches into Dourine we inoculated various sorts of animals, dogs, rabbits, mice, and rats, with the blood of stallions suffering from the disease, and were much struck with the fact that we were unable to obtain positive results with mice or grey rats, although the disease was reproduced with absolute certainty in dogs and rabbits. As we were anxious to carry out our observations on equines we had not time to make further experiments regarding the smaller rodents, although our experiences and those of M. Rouget in regard to these were absolutely contradictory.

We refer our readets to our first joint production and that of Dr. Rouget regarding the experiments made on rats and mice.[2]

M. Nocard found that mice did not react, and that rats were infected with difficulty with blood from a dog imported from Oran, but he was able to kill white rats inoculated subcutaneously with blood obtained from a young white rat that had been infected by intra-cerebral injection. Reasoning from the analogy of other diseases, he concluded that the

[1] Schneider and Buzzard, La dourin et son parasite Recueil de Médecin Vétérinaire, 1900, page 95.

[2] Rouget, Trypanosome des Mammiferes, Ann. de l'Inst. Pasteur, 1896, page 716.

virulence of the trypanosoma had become attenuated as regards mice by its passage through the body of the dog.[1]

Later on M. Nocard recognised that mice and white rats were not absolutely refractory. "When blood from the tail was examined daily a few trypanosoma could usually be discovered in from one to three days, showing, that although there was not absolute immunity that the disease was of a mild type."[2]

We are not prepared to admit that this relative immunity of the mouse is explained by the virulence of the parasite becoming modified in its passage through the body of the dog. We have seen dogs severely affected by blood taken from a donkey that had been inoculated two years previously, which showed no symptoms for many months. We have also given dourine to horses with blood that had been passed through numerous dogs.[3]

The experiments we now made consisted in inoculating mice and rats direct from a horse affected spontaneously with dourine, the material being furnished from two stallions that were unmistakeably affected, one of which came from Oran, the other from Tunis. Control animals, dogs, and rabbits were inoculated at the same time, and the presence of the parasite verified by the microscope. At the time of inoculation the blood of the subjects, "white rats," and white and grey mice, was also examined and no parasites detected.

MM. Billet and Marchal,[4] who this year had sixteen cases of dourine in the remount department at Constantine, had the same negative results with grey mice. They were unable to make any observations with white mice or rats as these creatures will not live well in Algeria.

M. Rouget's experiments are altogether different, as with him white mice died in from five to ten days, "with a generalised infection resembling that of nagana (African tsetse fly)."[5]

Grey mice and white rats also reacted, but in a longer time, viz., fifteen days. The question arises how these discrepancies can be explained.

The merit of having first noticed the active cause is due to M. Chauvart,[6] but he did not consider it to be dourine in the case he saw, thinking it to be surra. We, however, differed from him, founding our opinion on the fact that the horse was only submitted to M. Chauvart for examination five days before its death. The only cause of doubt that existed in our minds was the enormous increase in the numbers of the trypanosoma during the latter stages of the disease, whereas in dourine even if blood is taken from the patches, especially when the end is approaching, there are but very few parasites to be seen. It therefore seems to us that M. Rouget has described the trypanosoma of a disease which is not dourine.

Dourine is such a special disease that we cannot be too precise in its diagnosis and the differences in the various trypanosomes, viz., surra, nagana, dourine, and mal de cadera, are so small that there is difficulty in differentiating them. MM. Javeran and Mesuil[7] have noticed the similarity between nagana and dourine.

[1] Nocard. Comptes rendees de la soc. de biologie, 4th May 1901.
[2] Nocard. *In litt.*
[3] Buzzard and Schneider. Journ. de méd. vét. et de zoot, March 1902.
[4] Marchal. *In litt.*
[5] Laverne and Mesnil. Maladie de la tsétsé. Ann. de l'Inst. Past. 1902, page 53.
[6] Chauvart. Recueil de méd. vét., 15th June 1896, page 344.
Maladie de la tsétsé. Ann. de l'Instit. Pasteur, 1902, page 53.

We do not wish to advance any extreme theories, but from the different results obtained on rats and mice by M. Rouget and ourselves it appears reasonable to suppose that there is another trypanosoma besides dourine in Algeria, either nagana or surra.[1]

CASE I.—STALLION FROM ORAN REMOUNT DEPÔT.

On May 30th noticed to have great swelling of the scrotum. Arrived at the Oran depôt June 5th, when the œdema had extended to the umbilicus. On June 10th numerous patches had made their appearance over the thighs and sides. June 12th the trypanosoma was discovered in the sanguinous serum obtained from the swelling. From June 12th to July 1st a few typical patches appeared. A course of arsenate of soda produced some good results, but on July 15th rapid emaciation set in with paraplegia of the hind quarters. The animal was destroyed on the 30th. This horse had infected four mares.

Experiments with White Mice and Grey Mice and Rats.—Three series. —In each series three white mice, four grey rats, and ten grey mice, or control animals, dogs, and rabbits.

Inoculations were made on 2nd, 10th, and 20th July with blood, in which the parasite was demonstrated, the dose varying from $\frac{1}{4}$ to 1 cm. Mice are quite capable of bearing 1 cm. of blood M. Rouget used $\frac{1}{10}$ of broth and blood, so that the difference in the doses is considerable.

The blood of the animals was examined daily, but no trace of parasites found, and they remain in good health a month after inoculation.

CASE II.—STALLION FROM THE REMOUNT DEPÔT, TUNIS.

On July 19th noticed to have engorgement of the sheath and scrotum, July 22nd a characteristic patch of dourine on the right side followed, by others ; that however did not remain more than a day or two. August 2nd, the penis was paralysed, and 30th, a chancerous ulcer about the size of a shilling appeared on its left side, but the general state of health remained good. A course of arsenate of soda in large doses was prescribed. September 20th, the animal was greatly emaciated, and paraplegia set in. The patient died on October 3rd. On post-mortem examination the spinal cord in the lumbar region was softened. No parasites were seen in the blood after September 15th. Three mares covered by this stallion were infected.

Experiments on White Rats and Grey Mice—Three series.—In each series three white rats and four grey mice. Control animals for the three series, one donkey, three dogs, and two rabbits.

Inoculations made on 31st August and 15th September, with blood from the horse No. 2, the third series of inoculations were made on October 1st, with blood containing parasites taken from the inoculation point of the donkey, dose 1 to $1\frac{1}{2}$ cc. ; the control animals contracted the disease when the rodents never had any parasites in their blood. The examinations were made daily, and the preparations stained. On October 31st both rats and mice were in a perfect state of health.

[1] Legrain Progres Vétérinaire, 15th March 1896.

CASE NO. III*a*.—HORSE ON WHICH DR. ROUGET STUDIED A TRYPANOSOMA.[1]

An entire barb, purchased from a native in January 1894 at the remount depôt at Constantine. The animal was in good condition and moved well; he was intended to be used as a stallion during the coming covering season. On 15th March (before the horse had ever covered, at least, in the Government service) he was noticed to have œdema of the sheath and scrotum. At the same time round prominent patches were noticed on the croup and panes, which only remained one day, to disappear and reappear in some other part. When the penis became erect the urethral mucus was seen to be tumified, and the glands larger than normal.[2]

The patient was suspected of suffering from dourine and isolated. During the following week he was noticed to be discharging from the nostril, and have difficulty in breathing, though auscultation revealed no pulmonary lesions. The animal became greatly emaciated, although the appetite remained good, there was no rise in temperature. Paralysis of the hind quarters set in, and he remained down, rising with great difficulty. He died on 30th June.

CASE III*b*.—EXTRACT FROM A REPORT BY M. BUSY, REMOUNT DEPÔT, CONSTANTINE.

With Surgeon-Major Rouget, Director of the Bacteriological Laboratory at Constantine, I have detected trypanosoma in the blood of a horse purchased at the Constantine depôt before the covering season. I noticed symptoms somewhat resembling dourine—viz., emaciation, engorgement of the generative organs and hind limbs, together with *small points* of hair standing on end all over the body, which I have sometimes seen in cases of dourine, instead of well-marked patches, together with paralysis of the hind quarters, and I therefore asked Dr. Rouget to examine the blood.

An hour before death we were unable to discover a single parasite, and the question arises, if this horse purchased at the end of January 1894 in reality was not suffering from surra, although certain of the symptoms resembled those of dourine.

(*Recueil de Médecine Vétérinaire*—15th Dec. 1902.)

FISTULA OF THE INFERIOR MAXILLARY: ODONTITIS WITH ALVEOLAR PERIOSTITIS AND OSTEO-PERIOSTITIS.

BY M. JEAN, V.S., MILITARY TRAIN, FRENCH ARMY.

THE animal was admitted to the infirmary on August 1st, 1901, suffering from a fistula of the lower jaw, supervening on periostitis and caries of the first lower molar on the left side, the result of an incomplete fracture that occurred on 26th September 1899.

There was much tumefaction over the body and left branch of the bone, and in the region of the neck in front of the alveola a fistula 1½ in. across existed.

[1] Rouget. Annales de l'Institut Pasteur, 1896, page 716.

[2] There is no authentic case of dourine being contracted otherwise than by cortus. In Algeria it is seen in the months of May and June, that is to say, at the end of the covering season.—(Nocard.)

On examining the mouth the gum round the tooth was noticed to be slightly swollen. The tooth appeared normal, but the characteristic odour of caries was perceptible. A probe introduced into the fistula penetrated to the root of the tooth, and when withdrawn was covered with a purulent material with an infected smell.

There was pain on manipulating the part, but neither salivation nor difficulty in feeding, although it was impossible to put on a curb chain.

Treatment.—The hair was shaved round the wound, and both it and the mouth washed with a disinfectant, and the extraction of the tooth determined on.

On 13th August the animal was cast on the right side, the neck raised and the head placed in a horizontal position, so that the mouth was well illuminated.

The instrument and field of operation were disinfected, and the mouth held open by means of a speculum. The tooth was located by the left hand, and the jaws of the forceps adjusted on to it by the right. The handles were then grasped with both, and by a slight lateral and rotatory motion the tooth loosened. The forceps were then used as a lever of the first order, the fulcrum being the incisor teeth, and the tooth drawn.

I then explored the cavity with the left index finger and found that the anterior wall was formed of a loose detached piece of bone, which after some little trouble was removed. It measured $\frac{3}{4}$″ by $\frac{3}{16}$″, was of a grey colour, and did not adhere to any of the surrounding tissues.

The teeth was free from caries, but the root was covered with granulation, which showed that it was implicated in the alveolar inflammation. The upper edge of the internal wall of the alveolus was rough and friable, so I curetted it, and washed the mouth out with a tepid solution of alum, and then cauterized the fistula three times from without inwards with a hot wire, with the object of destroying infectious organisms, and causing a slough to be eliminated by the inflammatory action that would be provoked, leaving a healthy surface behind. It also arrested hæmorrhage, which, although not dangerous, was persistent and abundant.

The animal was placed on a liquid diet containing sulphate of soda.

The next day there was a certain amount of œdema of the jaw, but it was not very painful. The bad odour remained but the horse fed well, and there was no systemic disturbance.

The mouth and wound were washed out at frequent intervals with solutions of borax and carbolic acid, the food consisting of a small quantity of hay and oats with gruel, to which was added for antiseptic purposes a little lactic acid.

Fluids were taken with difficulty or they escaped through the wound, so it was stuffed with a plug of cotton wool dipped in tincture of iodine, pure lactic acid, nitrate of silver, 1 to 50, and Liquarer de Villate,[1] which was continued till September 15th.

After five days, *i.e.*, 19th August, the smell from the wound disappeared, and it granulated in a healthy manner, but great care was taken in dressing the part, and all particles of food that remained after it had been washed were picked out with forceps.

On 15th September the wound had filled up so much that it could no longer be injected, but the whole region and mouth were still frequently bathed with an antiseptic. There was a very slight discharge from the fistula, over which on October 10th a scale formed. This dried up and fell off on October 21st.

The animal was retained as a convalescent and kept under observation till 18th December, when he was discharged. There was still an enlargement of the branch of the maxillary bone about 3 inches long, but it was not painful, and the bit could be used without any inconvenience.

(*Recueil de Médecine Vétérinaire*, 15th Dec. 1902.)

POSOLOGY OF NAPHTHOL β WITH THE DOG AND CAT, AND THE SUSCEPTIBILITY OF THE LATTER.

BY M. J. LESAGE, ALFORT.

M. CAGNY published a case of poisoning in the cat by naphthol, administered in the dose said to be therapeutic in our veterinary formula, in the *Recueil de Médécine Vétérinaire* of 15th April 1898.[1]

The following prescription was given :—

℞. Naphthol, Bismuth salicylate } *aa.* 10 grammes.

In twenty powders of 1 gramme each. One powder daily.

The cat died four hours after the administration of the first. The animal weighed about 5 kilogrammes and the dose of naphthol taken was about 50 centigrammes, *i.e.*, about 10 centigrammes per kilogramme.

The questions that arose were, was this an exceptional case on account of the condition of the intestines, the animal having suffered from chronic diarrhœa for several weeks, or was it from the peculiar susceptibility of the cat tribe?

On the advice of M. Kaufmann I made some experiments on the subject, which I published, relative to M. Cagny's.[2]

I had intended to have continued them with the assistance of the stomach tube for cats.[3] When last September a confrère informed me that he had killed a cat by administering naphthol as a vermifuge, without any of the parasites being expelled, I remembered that naphthol had been recommended as an anthelmentic by Willeny for both ascarides and tæniæ.[4] This fresh case determined me to again take up the matter, and the result of the inquiry I now place before you.

[*Note.*—Here are given in detail the results of twelve experiments, seven on the dog and five on the cat, but as each case is given at great length and the results collectively having been dealt with by M. Lesage, it has not been thought necessary to translate them *in extenso*. J. A. N.]

The naphthol used was Poulene's β medicinal in a perfectly white crystalline powder, and all our subjects were kept without food for at least twenty-four hours, except the cat No. 3, which, unawares, had drunk a very small quantity of milk.

[1] Cagny. Doses therapeutiques du naphthol. Rec. de Méd. Vét. 1898.
[2] Lesage. Observations au sujet de la nate précedente.—Recueil de Médécine Vétérinaire, 1898.
[3] Lesage. Administration des breuvages au diat.—Recueil de Médecine Vétérinaire, 1901.
[4] Kaufmann. Traite de thérapeutique et de materia.—Médical Vétérinaires, page 157.

To the first cat I gave the naphthol in a small quantity of milk, but on account of the clot that formed, and which possibly might interfere with the action of the drug in the others, it was given dissolved in a small quantity of distilled water only. The drinking apparatus was carefully washed previously to use, and the quantity of water given with the drug varied from 50 cc. to 70 cc.

With the dogs, where a large quantity had to be given, it was made into pills with pieces of raw meat; but where it was only about 10 centigrammes to the kilo the powder was placed in a deep cut in a piece of meat, and the dogs, being very hungry, bolted it when thrown to them without the slightest difficulty.

The following are the practical conclusions that I have come to.

1.—DOSE OF NAPHTHOL β FOR THE DOG.

Is well tolerated in a dose of 10 centigrammes per kilo, but I think it would be safer to reduce it by half.

When 75 centigrammes per kilo was given it caused salivation, but was not toxic.

A larger dose caused vomiting, and I agree with Bouchard that 1 gr. 10 per kilo is the toxic dose.[1]

2.—DOSE OF NAPHTHOL β FOR THE CAT.

In a dose of 10 centigrammes per kilo naphthol β is fatal to felines, who are most intolerant to it in quantities well sustained by the dog.

In doses of 5 centigrammes per kilo it causes violent fits of sneezing, salivation, and lacrymation. The dose should not exceed 1 centigramme per kilo.

3.—SYMPTOMS OF POISONING.

The most striking symptom is the profuse salivation that takes place twenty to thirty minutes after ingestion of the drug. This is so great that in one case, No. 2, I collected more than 30 cc. of saliva from the mouth of a cat that weighed 870 grammes, about two hours after the dose had been given. A peculiarity is that the saliva from the anterior glands—maxillary, sublingual, and motor—will not mix with that from the parotid. If they are collected separately and then mixed, this will be very well marked. The saliva from the anterior glandular system does not contain any naphthol, so that it is not its elimination by the gland that causes salivation, and I am inclined to think that it is due to reflex action, especially as it ceases before the whole of the dose is completely absorbed.

Lacrymation sets in at once and is continuous, and blocking up the nose with a frothy fluid that interferes with respiration. The membrana nictitans covers up most of the eyeball.

The fits of sneezing are continuous, and from the irritation of the mucous membranes of the head, the cat continuously makes "grimaces," contracting the facial muscles and scratching with the fore paws. These movements become more violent towards the end, but never assume the form of convulsions or epilepsy, as some authors have described. I have seldom noticed the cough and nausea described by Willeny, but vomition is easily caused in the dog by a dose of 75 centigrammes to the kilo.

[1] Bouchard. Sur le naphthol comme médicament antiseptique.—C.R.A.S. tome 105.

The urine changes from the normal clear yellow of the cat to a brown colour, but there is not hæmoglobinuria, possibly due to a combination of sulpho-naphthols. It gives in a marked degree reactions indicating their presence, also when submitted to the spectroscope, but nothing resembling hæmoglobinuria.

Respiration is difficult, especially at the end, the head and fore limbs being stretched out and the mouth opened.

The fæces are soft, at first yellow, afterwards black, without any disagreeable smell, but there is not true diarrhœa even with toxic doses.

I have never seen the dysuria mentioned by Willeny; on the contrary the urine is passed without difficulty, but in some cases there is polyuria.

Death takes place slowly, with doses of 5 centigrammes per kilo, in about six and a half hours, and 10 centigrammes per kilo in seven to twelve hours.

There is slight congestion of the kidneys, but the bladder is healthy.

There is sometimes congestion in the first 6 inches of the small intestine and pylorus, but otherwise the digestive organs are healthy. I have noticed that in the cat there is slight subpleural œdema.

4.—NAPHTHOL β AS AN ANTHELMINTIC IN THE CAT.

My experience is that naphthol will kill the cat before the parasite.

In one case the patient had been dead for seventeen hours, but tapeworms from the intestines were alive and active, and the same was noticed with ascarides in another case, although in both there was an appreciable quantity of naphthol in the stomach.

(*Travaile du Laboratorie de Physiologie d'Alfort.*)

MUSCULAR RHEUMATISM IN BOVINES.

BY M. STREBEL.

Muscular rheumatism is not so common in the ox as articular or tendinous, and the literature on the subject is rare and obscure. Haubner considers it the same as the articular form. Friedberger and Frohner state that muscular rheumatism is as common in the ox as the horse, but that articular complications are more common. It attacks particular groups of muscles in the same way in both species, but in the ox the most common are the lumbar. M. Strebel has on several occasions seen it localised in the muscles of the fore-arm in young animals, but never in the shoulder or thigh.

Lumbar rheumatism manifests itself without any premonitory symptoms. In slight cases, which are the most usual, there is stiffness, movement difficult and painful, and the step is short. The animal lies down and gets up with difficulty, and in severe cases cannot be induced to get up at all. The lumbar muscles are tense, hard, and painful on pressure, but the general health is not altered, the appetite remains good, and milk secreted. A condition resembling lumbar rheumatism has been observed following parenchymatous mastitis, but there is no connection between the two.

In cases in which the fore-arm is implicated the gait somewhat resembles that of tetanus, the flexion of the knee joint is diminished, and the extensor muscles are tense, hard, and painful.

If taken in time lumbar rheumatism yields to treatment in three or four days. Most of M. Strebel's cases made a good recovery, but in one very bad one that was slaughtered he found the muscles pale, soft, and a considerable amount of infiltration into the connection tissue.

M. Strebel thinks that the disease is present at all seasons of the year, and that the better breeds are the most predisposed. Chills when heated are important factors, and Friedberger and Frohner consider that cold exercises a reflex action on the cutaneous nerves, and through them the blood-vessels in the particular group of muscles.

Lumbar rheumatism can be mistaken for fracture of a vertebræ, myelitis, congestion or inflammation of the meninges of the cord, apoplexy, abscess, or exostosis of the canal.

It can be diagnosed from fracture by the absence of crepitation, and the fact that great pain is caused by the friction of the broken bones against each other. In the case of congestion, myelitis or meningitis, there would be pronounced febrile symptoms and exaggerated sensibility of the lumbar region.

In spinal apoplexy there would be derangement of both the motor and sensory nerves of the hind quarters with loss of feeling, and if an abscess or exostosis were forming, the symptoms would be slight at first, but gradually increase, whereas in rheumatism they appear at once.

Treatment.—When called in early, friction to the part and plenty of clothing to promote perspiration will usually be sufficient, internal treatment not being necessary unless there is paralysis.

(*Schweizer Archiv*, August 1902).

FISTULA OF THE URACHUS.

BY M. GALVESBERG.

If the cord is broken too close to the umbilicus, the urachus remains patent, the urine continues to flow, and a fistula forms. In the foal, when the urachus adheres to the ring, it is more difficult to close than in ruminants, in which creatures it is free.

When the cord is 1 to 1½ inches long, a ligature or elastic band will close it, but even then, after it has sloughed off, an opening may remain, or omphalitis set in.

The usual symptoms are dropping of the urine, the orifice of the urachus being level with the abdominal wall and surrounded with granulations. The hair is matted and soiled, and there is often considerable œdema of the part, with an ulcerated patch in the centre which gives off an infective smell. Sulphate of copper and nitrate of silver have but little result, the lesions spreading and the foal dying from pyæmia and polyarthritis. Injections of tincture of iodine have been tried, but are not satisfactory. The author has attempted to divert out the urachus and ligature it, but as the abdomen had to be opened there was danger of peritonitis, and the same took place in attempting to apply pressure forceps. The method he now uses with excellent results consists of shaving and carefully disinfecting the part, and then injecting round the part a 15 per cent. solution of common salt, with a few drops of carbolic acid. The needle used should be very fine. The part should at once be

dressed with iodoform and collodion to prevent the urine coming in contact with the skin. A few hours after the operation there is a diffused engorgement round the umbilicus, which closes up the urachus. If there are any ulcerated patches they should be dressed with tannaforme. M. Galvesberg considers it to be hereditary, and more common in fillies than colts.

(*Schweizer Archiv*, October 1902.)

GENERAL VETERINARY MEDICAL SOCIETY OF HAINAULT, BELGIUM—May 11th, 1903.

M. DUPONT stated that during the last few months he had been called in to several cases of cows suffering from tympanitis that were unable to stand, and whose breath had a marked acid smell that he was unable to account for. It, however, quickly disappeared on the administration of sulphate of magnesia and bicarbonate of soda.

M. Etienne André mentioned a case that had recently come before the Cercle Médicale of Charleroi of a young beast that had been slaughtered at the public abattoir of Jumet, apparently in good health. A few hours after certain of the bones developed a strong fishy smell, and turned green. Except where directly in contact with the bones the meat remained sound.

M. Bruyere related a case of parturition in a mare. The foal was in sterno-sacral position, the straining very violent, and the rectum inverted. He adjusted the fœtus and delivered the foal, returning the rectum. The next day the mare was very unwell, the pulse small and thready, high temperature, no appetite, and fæces passed with pain in small hard balls. On examination a perforation was found in the floor of the rectum about a foot from the anus. The animal was slaughtered, and in the cellular tissues round the rectum a farrier's nail was found. How this came to be in the rectum M. Bruyere is unable to say, but he is of opinion that the rent was caused by the feet of the foal pressing against the nail and forcing it through the wall of the bowel.

(*L'Echo Vétérinaire*, November 1902.)

ACTINOBACILLOSIS AND ACTINOMYCOSIS.

M. NOCARD points out that the disease described by Lignieres and Spitz under the term Actinobacillosis exists in France, and that lately two cows have come under his personal observation. He states that it can be differentiated from Actinomycosis.

1. That in actinobacillosis the lymphatic glands are always involved. They are hypertrophied, nodulated, and usually hard, although he has seen cases where they are caseous and softened in the centre. In actinomycosis, on the contrary, it is exceptional to find the lymphatics implicated.

2. The granules in the pus in actinomycosis are of a sulphur-yellow colour and often calcified. In actinobacillosis this is rare, and they are white or grey.

3. In cover-glass preparations, when stained by Gram's process, the ramified filaments which are characteristic of actinomycosis are absent from the granules of actinobacillosis.

(*Bulletin de la Société Centrale de Médecine Vétérinaire*, 11th Dec. 1902.)

ON THE FREQUENCY OF CANINE PIROPLASMOSA IN FRANCE AND ITS DIAGNOSIS.

PAPER READ BEFORE THE CENTRAL VETERINARY MEDICAL SOCIETY OF FRANCE, December 18th, 1902, BY M. E. NOCARD.

IN the month of May last I brought a paper before this Society prepared by M. Motas, relating to eight cases that he had seen in France. Since then fifteen others have come under my notice in the clinic at Alfort.

In all cases a history was obtained of the dogs having run about woods or bushy land or been in kennels infected with ticks. These conditions particularly apply to sporting dogs, and eleven out of fifteen of our patients belonged to this class. Two particularly came under my observation. They were Brie hounds that had taken prizes at a show at Brauvais, where they were bought by a lady that lived at Fontainebleau. Their mistress used to ride about the forest a good deal accompanied with her new dogs, which after a few weeks became lazy, dull, and lost their appetite. As they were passing worms a vermifuge was given, but, except that no more were passed, it aggravated the symptoms. The dog was brought to me to examine; he was weak and anæmic, the mucous membrane being a pale yellow. I learned he had been covered with ticks, and in fact a number of them, "Dermacentar reticulatus," still were on him, but they had not attracted much notice, as the other dogs about the house had been annually attacked without appearing much the worse. The microscopic examination of the blood disclosed a large number of parasites.

I wish to confirm the statement I made last year.

When we are consulted about an anæmic dog that has symptoms of icterus and hæmoglobinuria, and is infected with ticks, this disease may be suspected, but without seeing the parasite a positive diagnosis is impossible. If the result is negative on the first examination of the blood, it should be repeated daily for the next two or three days, as the parasites are often but five in number in the chronic form.

I must now add to them the following remarks:—

When the history and condition of the patient give rise to the suspicion of the disease, but the results of microscopic examination of the blood repeated several days in succession are negative, it should not be at once concluded that the case is not one of piroplasmosa, for if a puppy has a small quantity of the suspected blood injected either intermittently or subcutaneously, a violent acute form of disease takes place that is usually fatal in a few days. Furthermore the parasite is very quickly developed in the blood of the inoculated animal. I have already had three cases of this sort, the diagnosis being established by the inoculation of a puppy.

The piroplasmosa behaves as all the other trypanosoma do in the chronic form. It is rare to see the organism in the general circulation of horses suffering from "Dourine," although the same blood when only a small quantity is inoculated into a horse or dog, will reproduce the disease with the characteristic symptoms that are early demonstrated. In France the same has been noticed in the case of cattle inoculated with Nagana (Tsete fly) where, although they remained healthy, and the blood, although examined daily, did not show the parasite, nevertheless was infective, and reproduced the disease when inoculated into dogs, rats, and mice.

The operation is most simple: a few drops of a solution of citrate of

potash, one-fifth, are put into a test tube to prevent coagulation. The external libial vein is punctured with a strong and rather large bare pruning needle, and the blood allowed to flow into the tube, and 5 to 10 c.c. injected either intervenously or subcutaneously into a puppy, but it should be remembered that the development of the disease is quicker by the former. On the third to the fifth day the parasites can be seen in a cover-glass specimen of blood fixed with absolute alcohol, and stained with Borrel's phenicated thionine, viz. :—

Thionine, . . .	1 gramme.
Pure carbolic acid, . .	3 „
Alcohol 95°, . .	10 c.c.
Distilled water, . .	90 „

TO OUR READERS.

Being fully aware that a thorough knowledge of all the diseases of Mammary Glands is of vital importance to human beings, we have obtained the plates and copyright of this admirable work, and Veterinary-Lieut.-Colonel Nunn has kindly undertaken its translation into English. We published the first portion in June 1902, and shall continue to publish it in monthly parts, and afterwards in book form.

DISEASES OF THE MAMMARY GLAND.

BY P. LEBLANC, LYONS VETERINARY COLLEGE—TRANSLATED BY VET.-LIEUT.-COLONEL NUNN, A.V.D., F.R.C.V.S., ETC.

(*Continued from page* 55.)

ERUPTIVE DISEASES OF THE TEAT.

IN foot-and-mouth disease, variola, and gangrenous coryza, especially the two former, a pustular eruption appears on the teat. Foot-and-mouth disease cannot well be mistaken for anything else. The pustules are round, contain a clear fluid, and are found in the mouth, also sometimes on the feet. In addition to the general symptoms its highly contagious character will easily distinguish it.

The pustules of variola appear spontaneously on the teats. They are distinguished by their pale yellow colour and being pitted or *umbilicated.* The absence of general symptoms or of the characteristic lesions in the mouth or on the feet will early distinguish it from foot-and-mouth disease. Kaempffer, in an epidemic of variola amongst a herd of ninety cows, notes that thirty remained unaffected. The eruption was situated on the udder, and especially on the teats, on each of which three to six pustules could be counted, which were completely developed in four days. True pustules were seldom seen, as they were broken in milking, leaving ulcers that healed but very slowly.[1] The pustules of both variola and aphtha are likely to leave indolent ulcers after them.

[1] Kaempffer. Berlin Thierarzt. Wochens., 1896.

Carrey hus drawn attention to the appearance on the mammæ of true pustules in cases of gangrenous coryza. They are lenticular, hard, and are more noticeable where the skin is fine and without hair. They are quite different to those of aphtha or variola.[1]

Johne has described under the name of furonculosis an inflammatory pustular eruption on the udder of the cow after feeding on potatoes. The secretion of the milk was not interfered with, and the pustules remained for several months. They were situated on the base of the teat, and were at first the size of a filbert nut, growing rapidly to that of a hen's egg. They were red and painful, with an infiltrated livid zone round the base. On the third or fourth day they burst and discharged a purulent fluid, mingled with shreds of necrosed tissue. All attempts at inoculation gave negative results, and a cure took place without difficulty by the use of disinfectants.[2]

Schik has recorded an eruption on the mammæ characterised by vesicles, which were succeeded by scabs and superficial eschars, accompanied with lymphangitis. The disease is said to be contagious, but the author does not say if he was able to reproduce it.[3]

Giovanoli, some time after Johne, described furonculosis of the mammæ. He attributes its cause to pricks from the leaves of the Spanish chestnut used as bedding, and states that the boil appeared generally at the base of the teat. "It is an inflammatory tumour of the skin, which increases in size to that of a walnut, being hard, painful, and red. It only involves the skin, being non-adherent to the deeper structures, and freely moveable. There is sometimes a depression round it of a blue or even black colour. Cows usually allow themselves to be milked without difficulty, especially if the tumour is inclined to enlarge. They burst and give exit to a purulent fluid, with blood and pieces of necrosed tissue or a core. A scale forms, which falls off, leaving a small cicatrix." Giovanoli recommends boracic acid ointment.[4]

INJURIES TO THE GALACTOPHEROUS SINUSES AND CANAL.

These may be mechanical, such as dilatation of the sinus or canal from retention of the milk or overstocking, which is done in some parts of France by fastening a ligature or indiarubber ring round the base of the teat, or it may be caused by a partial obstruction of the sinus or canal.

The quarter of the udder will increase to large dimensions, and in an acute case all four will be involved.

At the base of the teat there are rounded swellings that remain even when it is empty, and at first sight give the impression that

[1] Carrey. Pustules on the Teat of the Cow in the disease improperly termed Gangrenous Coryza. Journal de Lyon, 1888, page 238.
[2] Vennerholm. Furonculose im enter Krankheiten in der Haut des enters in Chirurgie de Bayer et Fröhner, page 303.
[3] Schik. Contagioses Entereczem, Berlin Archiv, s. 319.
[4] Giovanoli. Schweiz Archiv, 1900, no. 4.

they are tumours. Manipulation will show that there is no infiltration or thickening of the part, and that the skin is supple and elastic.

The other lesions of the sinus and canal are of inflammatory origin, viz., fibrous bands with adhesions, and granular vegetations, the former being much more commonly seen in the canal than in the sinus, in which situation they are comparatively rare.

Jensen examined the udders of 2048 cows, and he gave statistics. The principal traumatic lesions were submucous hæmatoma, submucous œdema, and rupture of the walls of the canal. The results of inflammation were ulceration and granular growths, these last being both single isolated neoplasms, and diffused papillomata.

The results of mastitis are stated by Jensen to be—

1st. The formation of fibrous growths within the sinus.
2nd. Diffused thickening of the lining mucous membrane.
3rd. The formation of cicatrices of a variable size.
4th. The formation of adherent bands.

Cicatrices are the most common, viz.—221 out of the total examined, and granular growths 91.[1] There are numerous other records in veterinary literature bearing out Jensen's observations.

Bouchet records a case of obstruction of the right posterior teat of the cow. The animal died from another cause, and on post-mortem examination the author discovered submucous emphysema involving the entire sinus. There were a number of vesicles containing gas, which measured from one-quarter to five-eighths of an inch, which were moveable on pressure, that displaced the membrane, and blocked up the sinus.[2]

Coremans found in a four-year-old cow a dilation of the sinuses, the mucous membrane of which was covered over with spherical nodules the size of a pea, with a smooth, firm surface. They were pedunculated and easily detached. It was thought that these nodules were of a tuberculous origin, but the bacillus could not be detected, microscopic examination showing that their structure was fibrous.[3]

Barlocher met a case in which an adherent wart blocked up the entire lumen of the canal.[4]

We have noticed in many cases of foot-and-mouth disease in cows that the mucous membrane of the sinuses and canals was studded over with granulations the size of a pin's head. The surface was covered with cylindrical epithelium, the same as lined the galactopherous sinus, and in the centre were a number of irregular shaped cavities lined with the same.[5]—(Figs. 4, 5, 6.)

[1] Jensen. Krankheiten in der Zitze bei der Kuh, M.F.D., 1895, page 96, Bd. vii. s. 401.
[2] Bouchet. Société Centrale, 1887, p. 478.
[3] Coremans. Ann. de méd. vét., August 1894.
[4] Barlocher. Archiv für Thierheilkunde, 1845.
[5] Leblanc. Lesions of the Galactopherous Sinuses, Journal de Lyon, page 327.

MAMMARY CALCULI.

Calculi form in the sinus, and are met with in the cow and goat. They are sometimes improperly termed "corns." They are formed by the milk coagulating and throwing down floculi of caseine, which gradually accumulate and acquire the consistency of a stone.[1]

1. *Cow.*—Veille found twenty-two calculi in the sinus of a cow, varying in size from a hazel up to a chestnut, and weighing altogether about 2½ ounces.[2]

Duplenne had a case of a cow with mammary obstruction due to an oblong calculus of a yellow colour, the size of a hazel nut.[3]

Smith also, in a similar case of obstruction of the left posterior quarter, found at the base of the teat a hard moveable body, which by manipulation was brought almost to the orifice of the canal, where it lodged fast. An incision was made, and a calculus the size of a bean, of a pale yellow colour and a smooth polished surface, removed. It was as hard as stone, and appeared to be composed of lime salts.[4]

Goat.—The only case recorded is by Bauer. The calculus was white, ovoid, and the size of a pea, much resembling a small pearl. On section it was found to be made up of a number of concentric layers. The composition was 60 parts of organic and 40 inorganic matter, the latter consisting of biphosphate of calcium, phosphate of magnesia, and traces of iron and chlorine.[5]

Diagnosis.—This is not difficult. There are the usual symptoms of partial obstruction of the teat, and the calculus can be easily detected as a hard moveable body not adherent to the membrane of the duct. Calculi can remain in the sinus for years without causing any inconvenience.

OBSTRUCTION OF THE TEAT.

Obstruction may be *complete*, *incomplete*, *congenital*, or *acquired*. Congenital obstruction is also known as imperforation. Acquired obstruction is generally the result of inflammation, but it may be due to a calculus.

1. *Imperforation.*—Supplementary or undeveloped teats are usually imperforate, and it is in such that this condition is usually found. It is not, as a rule, noticed until the animal comes into milk for the first time. Vass saw a case in a heifer in which the two posterior teats were imperforated, one only at the orifice, the other its entire length.[6]

[1] Rainard. Notes on the Diseases supervening on Parturition, Journal de Lyon, 1845, pp. 10, 97, 201, 297.
[2] Veille. Revue Vétérinaire, 1878, p. 540.
[3] Duplenne. Note on a Case of a Cow with Engorgement of the Udder and Retention of Milk. Mem. de la Soc. Vét. du Calvados et de la Manche, No. II., p. 72.
[4] Smith. Calculus in the Lactiferous Canal, Veterinarian, 1850, page 927.
[5] Bauer. Calculus in the Mammary Gland of the Goat. Repertorium der Thierheilkunde, Hering, 1894.
[6] Vaes. Imperforate Lacteal Canal in a Cow. Mem. de la Société du Calvadas.

In virgin heifers obstruction may be caused by a secondary lesion, as, for instance, the sequelæ of an attack of foot-and-mouth disease.

True imperforation is not as a rule a very serious matter. The teat should be seized between the finger and thumb of the left hand and the milk drawn down with it. Where the skin protrudes at the point by the pressure of the fluid, a crucial incision is made, and relief is instantly given. The canal may remain patent, but it is likely to close up again when the animal becomes dry, and on again coming into milk the operation has to be repeated.—(Furstenberg.)

Vaes remarks that the operation wound may become infected, and give rise to various complications.

2. *Obstruction* may be either complete or incomplete. It is caused—*1st*, by transverse fibrous bands in the canal; *2nd*, by granular growths or warts; *3rd*, by calculi.

Symptoms.—If the obstruction is complete no milk can be drawn, although it continues to be secreted, and accumulates in the canal and sinus. When these become full the secretion is partly suspended on account of the ducts and acini being choked up. The affected quarter swells up and is œdematous, on account of the pressure exerted on the vessels interfering with the circulation. There is considerable tension over the quarter, and pain on pressure. These symptoms much resemble those of mastitis, except that the milk is not altered in quality. If not relieved the secretion gradually diminishes, and the quarter loses its functional activity.

In partial obstruction the symptoms are much the same, but not so pronounced. A little milk may be drawn off in a thin stream, but the process is a long and difficult one. Complications are more to be feared in partial than total obstruction on account of the fact that micro-organisms can gain access to the canal and sinuses.

1. *Obstruction by Transverse Bands.*—In some rare cases this is situated at the extremity of the teat as a sequelæ to an injury of the sphincter, and in such the accumulation of milk will distend the teat to the end. If the obstruction is in the middle, the distention will only be above it, and the portion below will be hanging down; if at the base, the teat will not be smaller at all, but will be pendulous.

By manipulation the obstruction can be detected as a circular swelling of a greater or less degree of hardness surrounding the canal. It can be completely located by passing a sound.

Below the point of obstruction there is a small quantity of viscid clear fluid given off that is full of white floculi formed from the membrane, and which is loaded with various forms of epithelium (Larsen,[1] Bang, and Stockfleth state that 10 per cent. of cases of obstruction are caused by fibrous bands).

[1] Larsen. Adherent bands in the interior of the Teat and their Treatment. Monatschrif. f. Prakt. Thierh. iv. B. 74, 1893.

2. *Granulations and Warts.*—Obstruction by this cause is generally incomplete, and manipulation will allow of the growth, "which is immoveable," being detected.

3. *Calculus.*—The obstruction is often intermittent; manipulation will allow of the hard foreign body, which almost always is moveable, being detected.

Prognosis.—It is always a serious matter, although when only partial the quarter may remain useful for a long time.

Complete obstruction may not leave any systemic complications beyond alteration in the secretion of the milk, but there usually is loss of the quarter.[1] It always must be looked on as serious, as it is likely to recur, and surgical interference is frequently followed by gangrene.[2]

Treatment.—1. If due to adhesion, no matter what is adopted, half the cases are unsuccessful.[3] If the obstruction is incomplete the dilation of the canal may be attempted with the sound, but antiseptic precautions must be taken. Pieces of catgut, quills, a bundle of threads impregnated with wax, knitting needles, grooved directors, and trocars, have all been recommended for this purpose, but their utility is more than doubtful, and Strebel, Larsen, and other authors who have studied this question strongly condemn such articles, and insist on a proper sound being used, of which there are a number of patterns. Those described by Strebel, Morier, and Luthy[4] are almost identical. Guilbert recommends an instrument that opens the canal[5] (fig. 8), and Morier's has a hollow cone at the end (fig. 7).

The sound is passed beyond the obstruction, and as the edges are sharp it is divided when it is withdrawn. It is advisable to throw the patient and turn her on her side, as the teat must be held straight. It should be carefully washed with a disinfectant, and a 1 per 1000 solution of perchloride of mercury injected into the canal and retained there previously to passing the sound. This should be sterilised. In spite of all precautions the obstruction is liable to recur, and Strebel in 200 cows noted a high rate of mortality.[6]

Extensive resection of the canal and amputation of the teat, which has been advocated by Stokfleth and Kuhn, are not to be

[1] Bernard mentions a case of a cow that had obstruction of the teat when her first calf was born. The obstruction was overcome, but returned, and nothing further done. The quarter increased greatly for three years, when the animal was killed. The sinus was found distended with a quantity of fluid of a yellow colour resembling whey. (Ann. de méd. vét. 1877, p. 298.)

[2] Fahry recommends that the sinus be punctured and a fistula established to allow of the escape of the milk. The animal to be dried off as soon as possible and fattened. (Ann. de méd. vét. 1873, p. 229).

[3] Albenga. Practical observations on certain points in cases of Mammitis. (Giorn. di méd. vét.) August 1871.

[4] Luthy. Magazin, III. 1867.

[5] Guilbert. Société Centrale, 1887, p. 179.

[6] Strebel. Journal de Méd. Vét. 1868, page 512. Schweizer Archiv, f. Thierheilk., 1893.

recommended, especially the suggestion of the last author—amputation with scissors.[1]

Braker reports an interesting case of a cow with stricture of all four teats, in which he practised crucial resection with complete antisepsis both before and after operation. Three days after, in spite of all efforts, gangrene set in, and the patient had to be destroyed, the entire udder being involved.[2]

Walthere Varsage has practised incision into the canal in three cows. In two mastitis supervened; in the third gangrene and death.[3]

Beck has treated ten cases of obstruction, with two failures, by pressing on the teat with the fingers and forcing the milk through the obstruction, which is thus broken down.[4]

Anderson[5] has contrived a pair of forceps with indiarubber jaws to seize the teat and exert pressure in the same manner, and which is said to be a success.

2. *Obstruction caused by Tumour or Wart.*—Certain practitioners advocate attempting to break down the growth with a sound, but the practice is not to be recommended, neither is it very successful. The other plan is to open the sinus or canal and dissect out the growth. Barlocher has operated on a cow, and removed a growth the size of a hazel nut. The wound was sutured, and cicatrised in fifteen days. Strict antisepsis was practised.[6]

Madsen has performed the same operation successfully, removing the growth with scissors.[7]

3. *Obstruction by Calculus.*—It is sometimes practicable to force the calculus out of the canal by manipulation, and if there is any chance of success no effort should be spared. If it is not too hard it can often be broken down by the fingers, and the fragments evacuated without danger of injury to the membrane, but in the event of failure, the canal or sinus must be opened and the calculus extracted.

Smith[8] has recorded a successful case of this nature, the wound healing by first intention. The calculus, however, formed again four years after.

INFLAMMATORY DISEASES.

The inflammatory diseases of the udder are known as *mammitis* or *mastitis*.

[1] Stockfleth. Amputation of the Teat. Clinische Jagtagelser, 1861. Kuhn, Chirurg. Bayer, and Fröhner. Article, Mammary Gland.

[2] Braker. Complications supervening on Resection of the Lactiferous Canal. Veterinarian, June 1900.

[3] Walthere Varsage. Obliteration of the Galactopherous Canal in the Cow. Ann. de méd. vét. 1855, 505.

[4] Beck. Behandlung der Scheindeunde in der Zitzan bie der Kuhe. M. F. D., 1893-94, Bd. v.s. 154.

[5] Anderson. Moanedsk. f. Drylægar, ix. page 113, U. 340.

[6] Barlocher. Obstruction to the Teat in a Cow. Archiv f. Thierheilk. 1845.

[7] Madsen. Radical operation für verstopfen der Zitzen der Kuhe, M.F.D., 1893-94, Bd. v. 280.

[8] Smith. Calculus in the Lactiferous Canal of a Cow. Veterinarian, 1852.

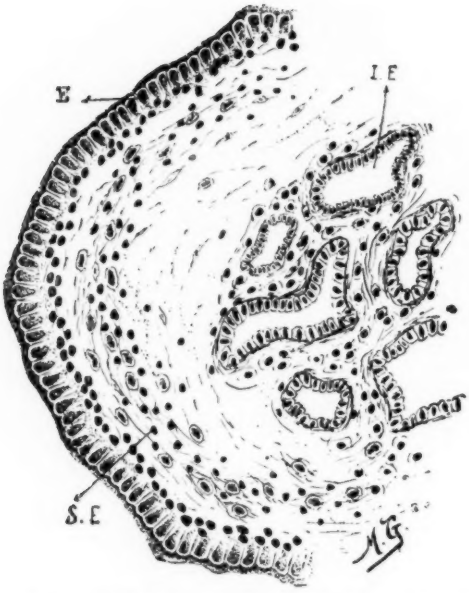

FIG. 6.—Fig. 5 more highly magnified. E, epithelium ; SE, infiltrated sub-epithelial zone ; IE, invaginated epithelium.

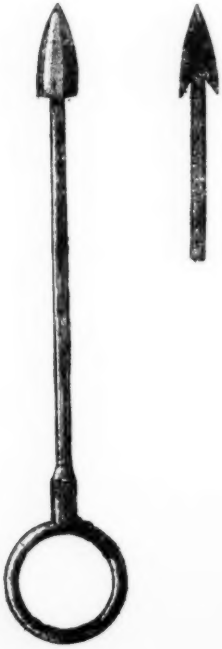

FIG. 7.

FIG. 8.

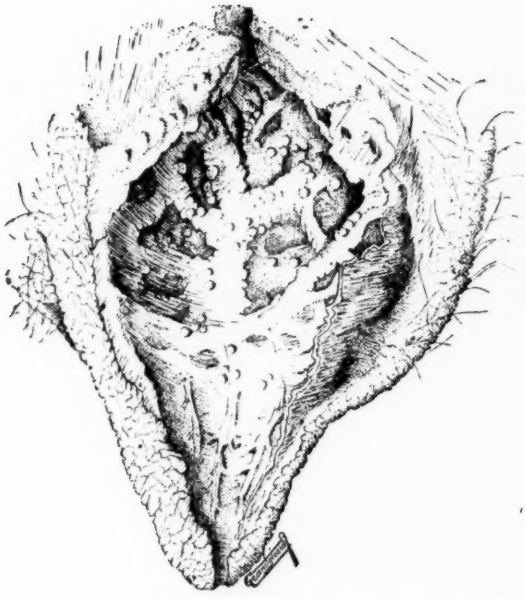

FIG. 4.—Section of galactopherous sinus showing vegetation on the mucous membrane.

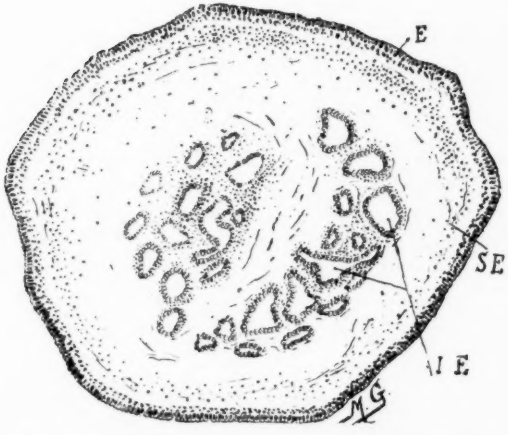

FIG. 5.—E, epithelium ; SE, infiltrated sub-epithelial zone ; IE, epithelial invagination. Low power.

Diseases of the udder are daily assuming more importance, as it becomes recognised by the public that they play a considerable part in rendering milk and meat unfit for human food. The consumption and demand for pure milk increases yearly, as not only is it the natural food for infants and children, but it has been recognised as being the only proper nutriment in certain diseases.

The diseases of the udder of milking animals, therefore, possess an interest from both an economic and hygienic point of view.

For a long time diseases of the mammary gland were but little known, as the early veterinarians confined their attention to the diseases of the horse.

The earliest writer on the subject in France is Bardy de Brassac, in 1814. In 1816 Morier published a monograph on engorgement of the gland. Vatel mentions mastitis in his pathology, 1828. Hurtrel d'Arboval devotes a chapter to this subject. Then follow the observations of Duplenne, 1831, Dillon, 1835, Lecoq and de Roche Lubin, 1835, and Rainard, 1845. Gelle, Lafosse, Roll, Cruzel, and especially Saint Cyr, all devote a considerable space in their works to this important subject.

Trasbot edited an article on it in Bouley and Reynal's Dictionary, and amongst foreigners we may mention Rivolta, 1875, Franck, Schlosser, and Dieckeroff, who have all contributed valuable observations on this subject.

From a bacteriological point of view it has been studied by Nocard, 1884, Bang, 1886-89, Kitt, 1885-91, Brusasco, 1885, Mathis, 1885, Hess and Bourgeaud, 1889, Hess and Guillebeau, 1891-'92-'93-'94, Lucet, 1889-91, Zschokke, 1893, Jensen, 1900,[1] and those various authors have thrown much light on what has been therefore an obscure subject.

CLASSIFICATION OF MASTITIS.

There have been many classifications by various observers according to the views they held. Saint Cyr distinguishes it as catarrhal, phlegmonous, and parenchymatous.

Moller recognises interstitial, parenchymato-catarrhal, and parenchymato-gangrenous mastitis. Harms and Fleming have adopted the classification of Saint Cyr and Violet. Franck describes œdema of the mammæ and interstitial mastitis.

Lucet bases his classification on the mode of infection, and describes lymphogenious, hæmatogenious, and galactogenious mastitis. Kitt classifies the disease, 1st, by pathological anatomy, 2nd, by clinical symptoms. The first is the same as Lucet's. From a clinical point of view he recognises :—

1. A non-infectious œdema.
2. An infectious œdema.
3. Sporadic catarrhal mastitis.

[1] Jensen. Bacteriological Research in Mammitis in the Cow. Moaneds. fur Drylæger, 1900, page 237.

4. Enzootic and infectious catarrhal mastitis.
5. Infectious purulent sclerosis of the mammæ.

M. Trasbot divides the disease into acute and chronic.

Hess has adopted a most complete classification based on the alterations in the secretion of the milk.

No alteration in the secretion, . .		1. Sporadic Œdema. 2. Infectious Œdema.
Slight alteration in the secretion, ...	No derangement of the gland.	1. Alteration in the secretion. 2. Sanguinious secretion.
	Slight glandular derangement.	1. Mammary Catarrh.
Serious glandular derangement, ...	Serious derangement.	1. Parenchymatous mastitis. 2. Tuberculous mastitis.
	Unimportant derangement.	

This classification, like all the others, lays itself open to criticism. Hess places œdema amongst the inflammatory diseases, whereas it is only a symptom. The same applies to what he terms Milchfehler (alteration of the milk), and Blutmelken (red milk). The alteration of the milk is the result of the presence in the canal and sinus of non-pathogenic bacteria, and there is a change in the secretion independent of any pathological process. This holds good in the case of Blutmelken, which is merely a symptom; on the other hand, he draws a clear line between those cows in which there is slight and well-marked alteration in the secretion. Even then there is a theoretical division, as there are cases of catarrhal mastitis in which the secretion is as much altered as in parenchymatous inflammation.

Enzootic mastitis causes great alteration in the milk in the later stages, although at first it is not noticed; on the other hand, sporadic mastitis has little influence on it.

Corrigendum.—At page 48, fifteenth line from foot, read "emanations" for "enaminations."

THE INJURED ANIMALS ACT, 1894.

BY GUY GUILLUM SCOTT, BARRISTER-AT-LAW, GARDEN COURT TEMPLE, E.C.

THIS Act, which has now been in operation for eight and a half years, was passed in order that animals (horses, mules, or asses) fatally or permanently injured in the street may be compulsorily destroyed on the certificate of a veterinary surgeon. Speaking generally, it may be taken that the Act has worked well, but from time to time complaints have arisen, mainly with regard to the difficulty often experienced in getting a veterinary surgeon to attend now that the fee has been cut down from one guinea to ten shillings and sixpence, and also on account of the length of time that frequently

elapses before the animal is destroyed, even after the certificate of the veterinary surgeon has been obtained.

With regard to the first, it appears that the fee was lowered in consequence of a complaint by medical men that the veterinary surgeon was being paid so much more than they when called to cases in the street, and as a consequence the fees were equalised. But it should be remembered that the cases are somewhat different. When a man is injured in the street and a doctor is sent for he is at once removed to the nearest hospital, and anything that is done is done privately, but in the case of a horse or other beast within the Act, the veterinary surgeon has to examine it out in a public street, in the presence of a crowd of people, and has the additional heavy responsibility thrown upon him of deciding then and there whether the injury is so serious as to render its immediate destruction necessary.

As to the second point, viz., the length of time that frequently elapses before the animal is destroyed, even after the veterinary surgeon's certificate has been obtained—this is due to the fact that the police always have to send for a knacker to slaughter the animal, although in the Act it is laid down that "If it appears by the certificate of such veterinary surgeon that the animal is mortally injured, or so severely that it is cruel to keep it alive, *it shall be lawful for the police constable*, without the consent of the owner, *to slaughter the animal*, or cause it to be slaughtered with such instruments or appliances, and with such precautions, and in such a manner as to inflict as little pain and suffering as practicable."

The remedy for this complaint is twofold. Either instruct certain police officers *permanently attached to each station* as to the best methods of destroying injured animals, and supply them with the proper appliances, or else raise the fee of the veterinary surgeon, and look to him to destroy it there and then in whatever manner commends itself most to him.

NOTE.—Greener's humane horse killer can be used by any intelligent person.

REVUE GÉNÉRALE DE MÉDECINE VÉTÉRINAIRE.

No. 1, January 1st.—This new Journal, which is to be issued fortnightly, made its appearance with the new year. It is edited and published by Professor E. Leclainche, of the Veterinary School of Toulouse. In scope it differs from most of the Continental journals in that about fourteen pages are given to notes on English and Continental veterinary journals and to questions affecting the profession in those countries. M. Nocard writes on Human and Bovine Tuberculosis; M. Vallée, on Precipitating Serums; M. Joly, on Lameness resulting from Deformity of the Ilium; M. Leclainche, a review of the present condition of the profession at home and abroad, as a preface to further notes; and there are eight pages of clinical extracts from French and German journals. The "get up" of the Journal is better than many. It is a large 8vo., printed cleanly and well, with proportionate margins, and on a white paper of good substance, instead of on the poor, low-coloured material which gives a mean appearance to several of the Continental journals.

Subscription 15 fr., to M. Bimes, Veterinary School, Toulouse, France.

Reviews.

L'Exterieur du Cheval et l'Age des Animaux Domestiques. Per L. Montane, Professor a l'Ecole Veterinaire de Toulouse. 1 Vol. in 18. 530 pp. 260 Fig. Baillière et Fils. 5 Francs.

This constitutes the twenty-first volums of M. C. Cadeac's *Encyclopédie Vétérinaire.* The exterior of the horse has been reduced to a science in France, the animal being considered as a machine, and what in England is known as the "points" being all marked out by mathematical formulæ and mechanics, so much so that "animal mechanics" is a section of this science recognised on the Continent.

France has produced many writers on this subject, viz., MM. Calin, H. Bouley, Cuyer and Alix, and Goubany and Barrier, the authors of the standard work on it, *Traite d'Exterieur du Cheval;* but, as M. Montane points out, some of them are so elementary as to be useless to any one with the slightest acquaintance with horses, and others are so profound and go into such speculative problems as to be beyond ordinary practical requirements. It is with the object of rendering this branch of science useful to veterinary students, practitioners, and horsemen of ordinary education that he has published his book.

The volume is divided into six parts, each of which is subdivided into chapters. Part one treats of the body as a machine and the different levers and their mechanical relationship to each other that go to make up a harmonious whole. Part two deals with dentition, and comprises the horse, ass, mule, ox, goat and sheep, camel, dog, and pig. Part three the marks of the horse, ass, mule, ox, sheep, pig, dog, and cat, colours, distinguishing marks, height, weight, &c. Part four gives the "points" properly so called, dividing them into regions and giving the good and bad points respectively. This portion contains some good drawings and diagrams, and we particularly notice some of sections through various parts of the limbs. The proportions that the different parts of the body should bear in relationship to each other are discussed fully. Part five is devoted to locomotion, the tracings and diagrams being Marey's. Part six consists of advice in buying and selling horses. The French law differs from English common law, but nevertheless there is some sound advice given which will well repay perusal. Altogether M. Montane's volume fully keeps up to the standard of the other twenty, and, like all the others, it is clearly printed and well got up.

The Common Colics of the Horse. By H. Caulton Reeks, F.R.C.V.S. London: Baillière, Tindall & Cox.

Mr. Reeks can justly claim to have written the best book we have on the most troublesome, complicated, and too frequently fatal disease of the horse, namely, colic. Veterinary surgeons as a body are the most observant of men, but they have one great failing, and that is, they are extremely reticent, and seldom communicate their observations in writing to their professional brethren. Mr. Reeks is a golden exception, and has placed at our disposal his observations, deductions, and methods of treatment in a large number of cases. Readers of this book will find some rather startling statements in it—but to all of these the author gives strong substantiation.

We strongly recommend our readers to avail themselves of this opportunity of considerably adding to not only their knowledge of the many forms of colic, but of the most successful methods of treating them.

MOVEMENTS OF ARMY VETERINARY DEPARTMENT OFFICERS—JANUARY 1903.

Jan. 1.—Veterinary-Major Blenkinsop, D.S.O.; Civil Veterinary Surgeon A. J. Sellers arrived Southampton from South Africa in S.S. Delaware.

Jan. 3.—Veterinary-Lieutenant P. J. Harris joined at Ballencalig for duty, vice Veterinary-Major J. M. Healey (retired).

Veterinary-Lieutenant W. Martin Millar arrived per S.S. Norman from South Africa.

Veterinary-Lieutenant H. M. Durrant reported departure for India on expiration of leave of absence on private affairs.

The following Veterinary Officers have been detailed for service with the Somaliland Field Force from India:—Veterinary-Major A. F. Appleton, Veterinary-Lieutenants H. M. Lenox Cunyngham, W. A. Woods.

The following accompany the Contingent from South Africa for service in Somaliland:—Veterinary-Captains G. M. Williams and W. E. Russell, and Veterinary-Lieutenant O. S. Fisher.

Jan. 12.—Veterinary-Lieutenant-Colonel T. W. Forsdyke, and Civil Veterinary-Surgeon R. F. Wall arrived in S.S. Nubia from South Africa.

Notes and News.

A novel defence was raised at Oswestry on December 15th by a labourer from Trefonan, who was charged with stealing a pullet from a fowl-house. The dead pullet was identified by the prosecutor, and even the boot-prints corresponded with the defendant's boots. The prosecutor admitted feeding his fowls with meal and corn only. Defendant declared that the pullet was his and that barley would be found in its crop. The crop was opened and barley was found inside. The defendant was therefore discharged.—(*Law Times*, Dec. 10th, 1902.)

Messrs Spratt's Patent Limited have submitted for review copies of their Doggie Wall Calendar for 1903.

There are eight portraits of prize dogs, comprising pointer, Scottish terrier, bull-dog, toy Pomeranian, Airedale, retriever, great Dane, and fox terrier. They are all reproduced by half-tone blocks on art paper. At the back of each picture they give detailed technical information as to the points of breed depicted. There are also illustrations of prize turkeys and of cage-birds by Mr. Lydon.

They have introduced a new feature this year, by means of which each month, as dispensed with, need not be torn off, but can be kept for refereuce at back.

To those of our readers who make early application they will be pleased to send a copy on receipt of penny stamp for postage addressed to Almanac Department, Spratt's Patent Limited, 24 Fenchurch Street, London.

XUM

CONTAGIOUS DISEASES ANIMALS ACTS, 1864 AND 1890.

SUMMARY OF RETURNS OF OUTBREAKS for the Four Weeks ending 17th January 1903.

ENGLAND AND WALES.

Swine Fever.	Anthrax.	Glanders (including Farcy).	Rabies.	Sheep-Scab (for month of December).
Outbreaks 120 Slaughtered 715	Outbreaks 33 Attacked 47	Outbreaks 76 Attacked 133	None.	Outbreaks 324

SCOTLAND.

Outbreaks 2 Slaughtered 5	Outbreaks 20 Attacked 23	Outbreaks 3 Attacked 7	None.	Outbreaks 26

IRELAND.

Outbreaks 1 Slaughtered 26	None.	None.	None.	Outbreaks 82

Received for Review.—Live Stock Journal Almanac, 1903: Vinton & Co.; 1s. "*Via* Eastern" Telegraphic Social Code: William Hutchinson & Co., Trafalgar Buildings, Charing Cross; price 5s. Seventeenth Annual Report of the Bureau of Animal Industry, U.S.A., 1900: Department of Agriculture. Report upon Texas Fever or Red-Water in Rhodesia, by Chas. E. Gray, M.R.C.V.S., C.C.I., Rhodesia, and Wm. Robertson, M.R.C.V.S., Bacteriologist to Veterinary Department, Cape Colony: August 1902. Pictorial Hints for Travellers in the Near East, by E. A. Reynolds-Ball, F.R.G.S. A Treatise on Surgical Therapeutics of Domestic Animals, by Professor P. J. Cadiot and Adjutant J. Almy, Alfort. Veterinary Notes for Horse-Owners, 6th edition, by Captain M. H. Hayes, F.R.C.V.S.

Owing to extreme pressure on our space, we are compelled to leave over various articles.